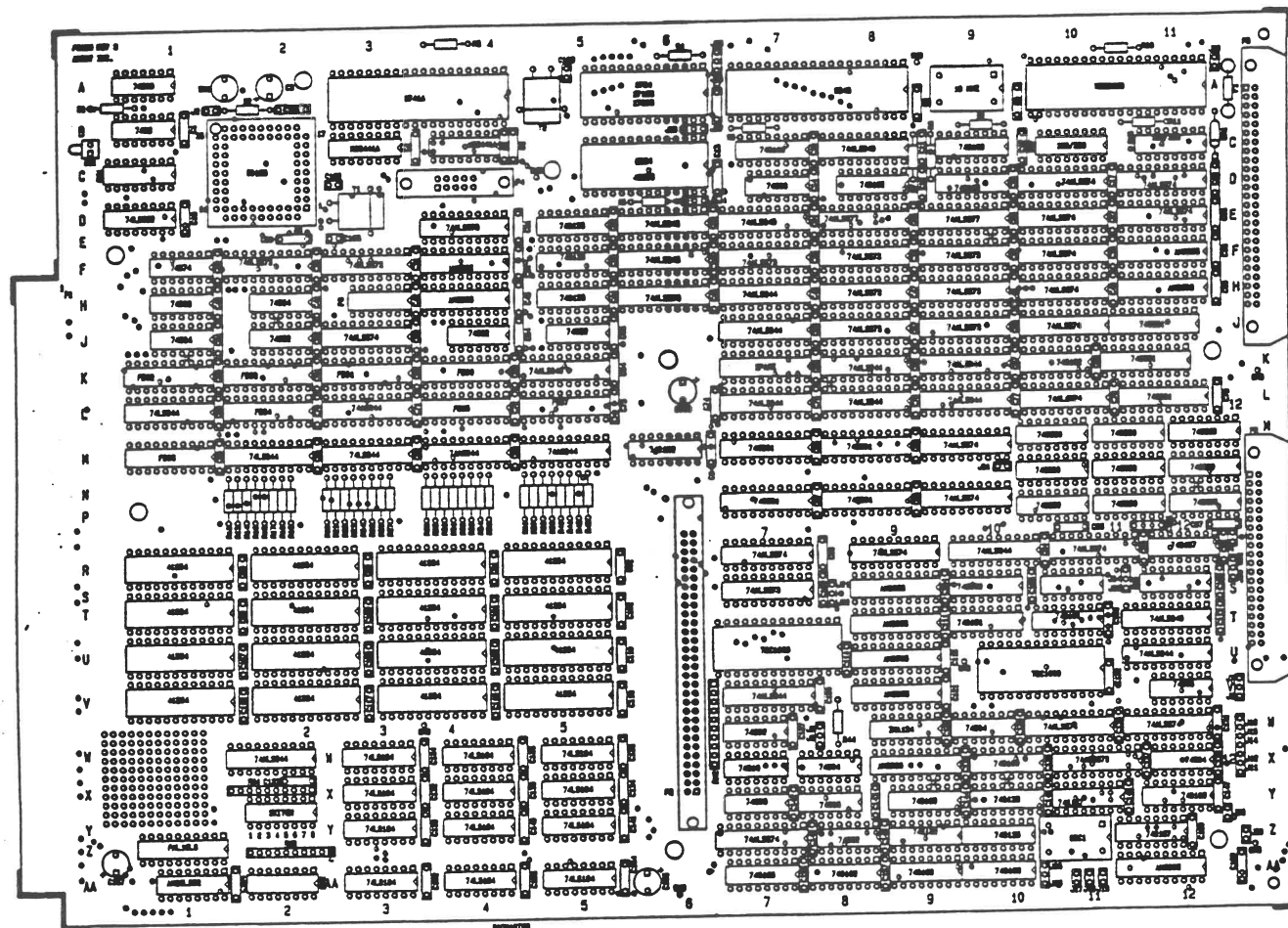


REVISIONS					
ZONE	LTR	DESCRIPTION	ECO	DATE	APPO
	3	DELETE JUMPER AT LOC. 8E AND 9E. MK2. 050-578		01/10/79	DB
	A	ADD NOTES 1, 2		06/30/79	DB
A-2	B	Balance 7401-0023-01-1 + 7401-0053-01-1 MK2. 050-578		09/20/79	DB



TABULATION			
PART NO.	SOFTWARE FOR LOC. 6A	APPLICATION/TITLE	COMPLETION
-1	401-0023-01-1	60 HZ, SR	
-2	401-0053-01-1	50 HZ, SR	

NOTES:

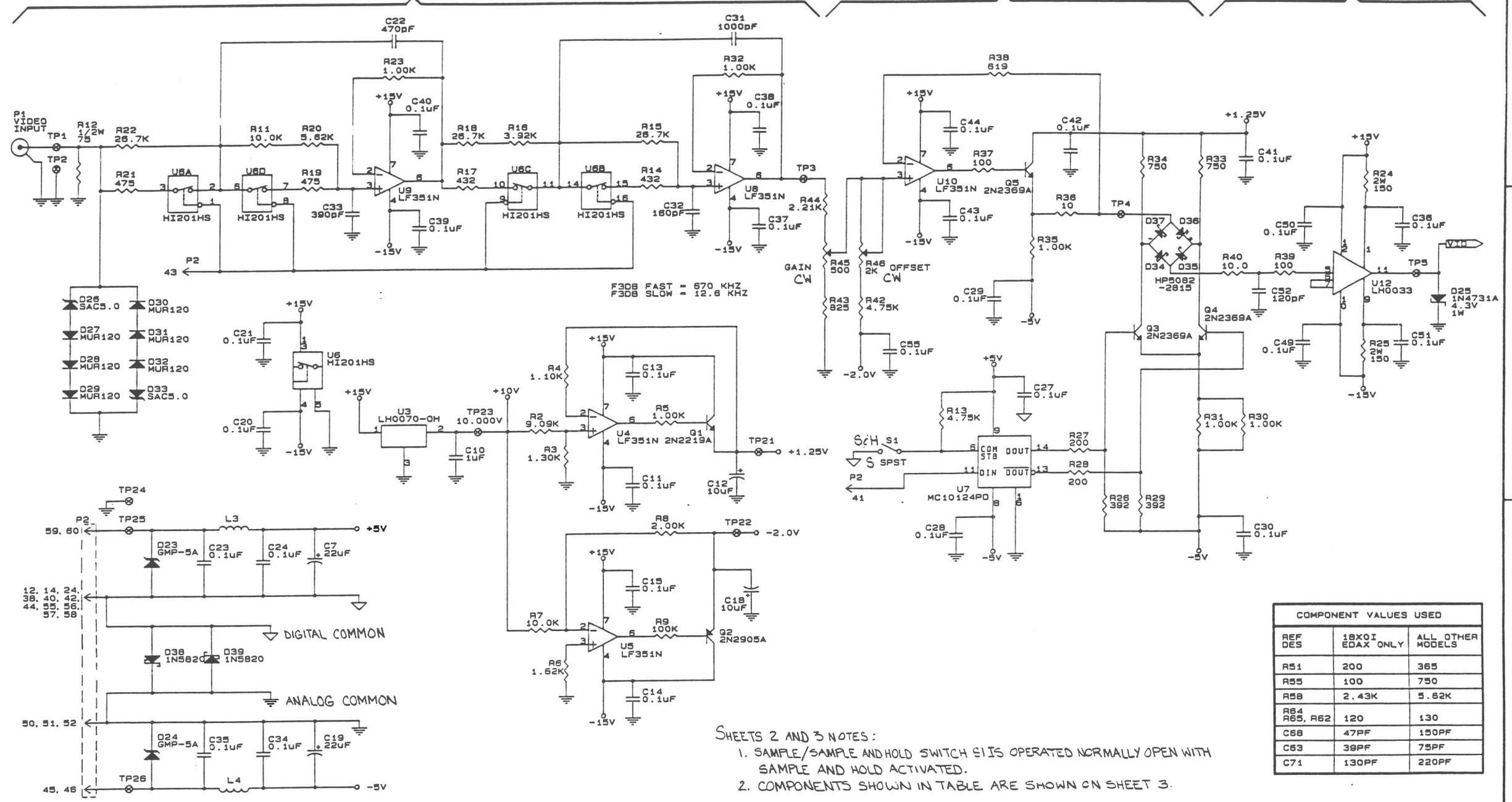
1. AT LOCATION 8E AND 9E, DEVICE MAYBE 74ALS377 OR 74LS377.
2. MARK ASSY NO., DATE MFD, AND REV LEVEL OF THIS DWG ON PCB LABEL.

ITEM	PART/DWG NO.	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC. BEDFORD, MA			
DESIGN	DATE	TITLE	
CHKD.	2-15-89	PCB ASSY, 10M, FR BF, MK2,	
APPO.	DATE		
UNLESS OTHERWISE SPECIFIED		MATERIAL	CODE IDENT, NO.
TOLERANCES	SURFACE	SIZE	DWG. NO.
.XX	ROUGHNESS	D	91095
ANGLES		SCALE	WT.
NEXT ASSY.	USED ON	REMOVED ALL BURRS	SHEET 1 OF 1
APPLICATION			

BUTTERWORTH ANTI-ALIASING FILTER

SAMPLE/HOLDER AMPLIFIER

A/D CONVERTER DRIVER



SHEETS 2 AND 3 NOTES:
1. SAMPLE/SAMPLE AND HOLD SWITCH S1 IS OPERATED NORMALLY OPEN WITH SAMPLE AND HOLD ACTIVATED.
2. COMPONENTS SHOWN IN TABLE ARE SHOWN ON SHEET 3.

SHEET 1 IS "D" SIZE
FILENAME: C92101P1.10R



AMRAY INC. BEDFORD, MA

DRAWN
CHKD
APPO

DATE
93-7-8
93-9-22
DATE

TITLE
PCB ASSY, 10A, IMAG PR AN, MK3, SR

UNLESS OTHERWISE SPECIFIED

TOLERANCES
.XX ±
.XXX ±
ANGLES ±

SURFACE
ROUGHNESS
✓

REMOVE ALL BURRS

MATERIAL

SIZE
C

OWG. NO.
92101

SCALE

WT.

SHEET 2 OF 3

CODE IDENT. NO.

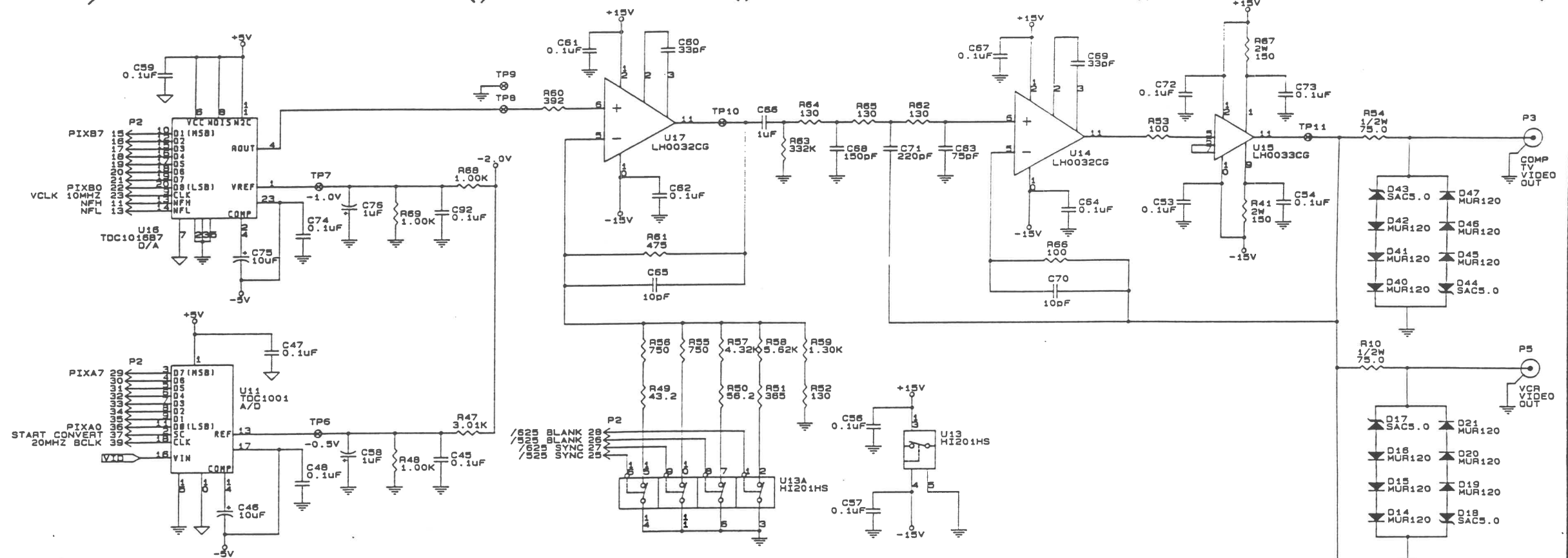
REV.
A

D/A & A/D CONVERTERS

SYNC BLANKING

POST ALIASING FILTER

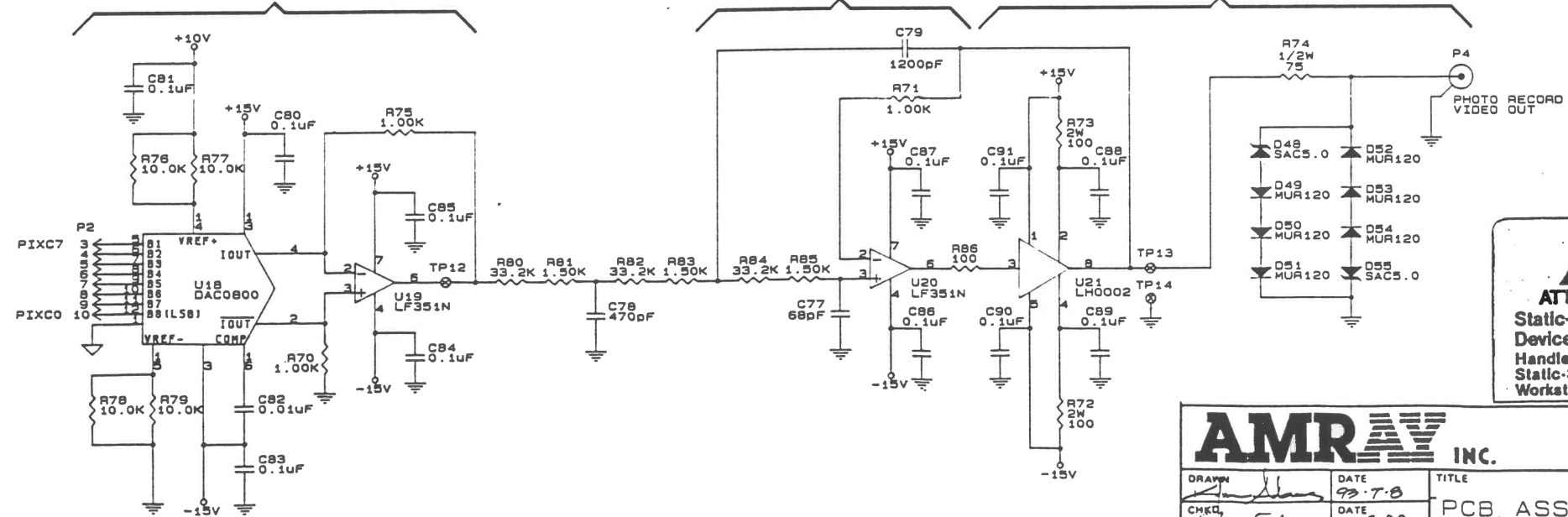
OUTPUT DRIVER



D/A CONVERTER

POST ALIASING FILTER

OUTPUT DRIVER



ATTENTION
Static-Sensitive
Devices
Handle Only at
Static-Safe
Workstations

SHEET 1 IS 'D' SIZE

FILENAME: C92101P2.10R

AMRAY INC.

BEDFORD, MA

DRAWN
CHKD
APPD.

DATE
93.7.8
DATE
93.9.22
DATE

TITLE
PCB, ASSY, 10A, IMAG PR AN, MK3,SR

UNLESS OTHERWISE SPECIFIED

MATERIAL

CODE IDENT. NO.

TOLERANCES
.XX
.XXX
ANGLES

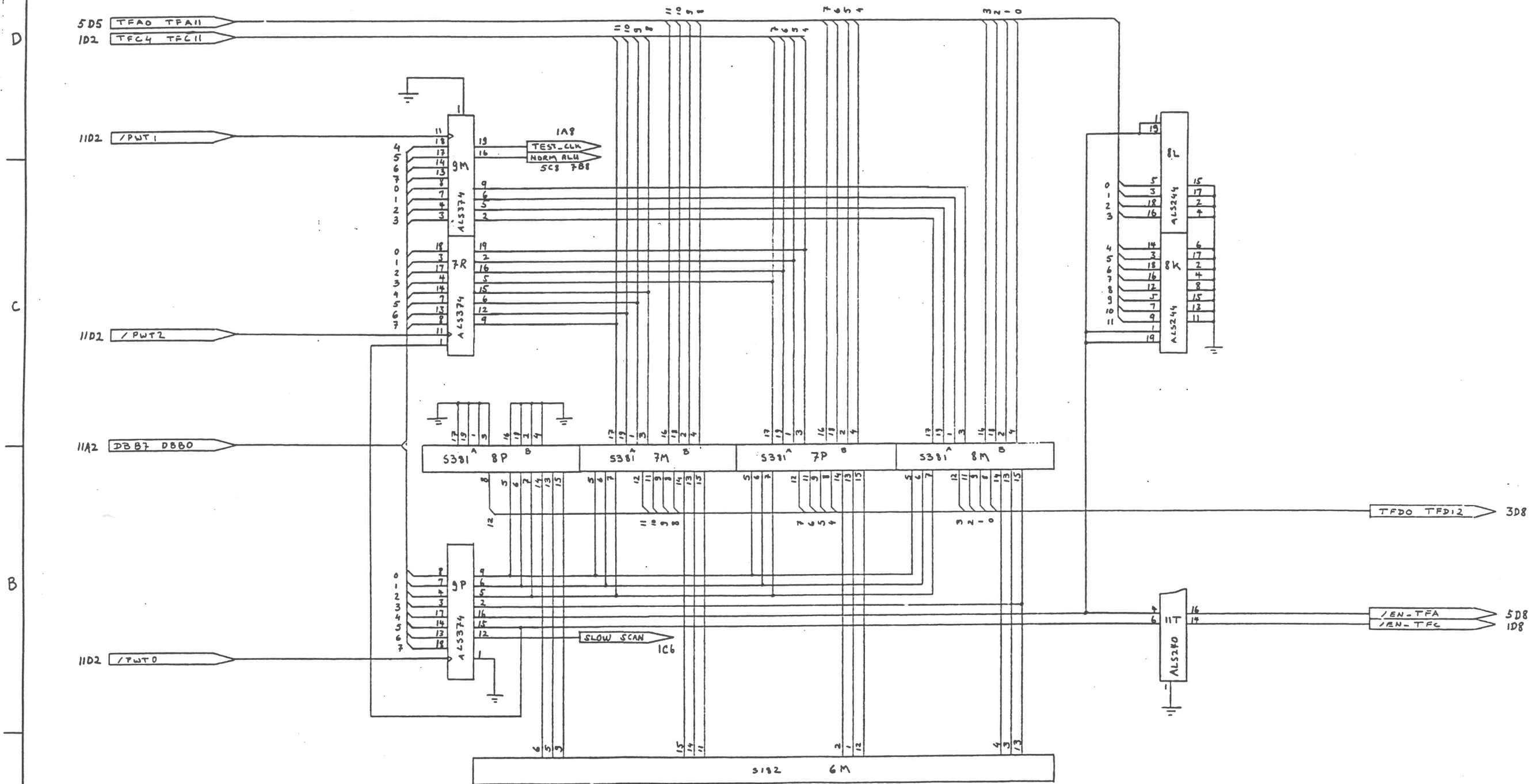
SURFACE
ROUGHNESS
C
DWG. NO.
92101
REV.
A

REMOVE ALL BURRS

SCALE

WT.

SHEET 3 OF 3



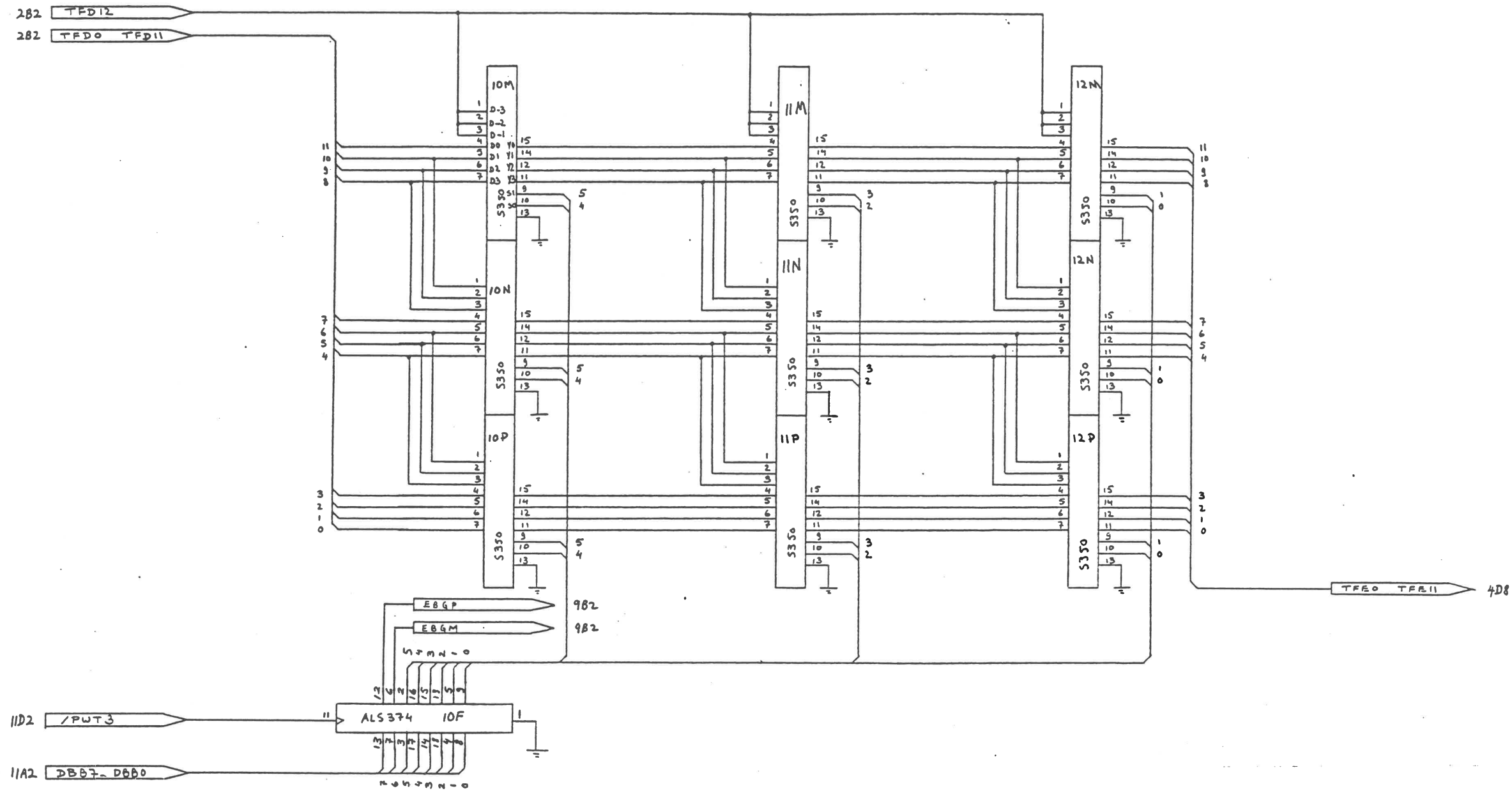
TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC ANGLES	
±	±	±	±
APPROVALS	DATE	AMRAY PC10M R2	
DESIGN		FRAME BUFFER PC10M	
CHECKED		ALU1	
REV A	D	SIZE	DRAWING NO.
DO NOT SCALE DRAWING		800 18 130	
		SHEET 2 of 15	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

LEVEL 1

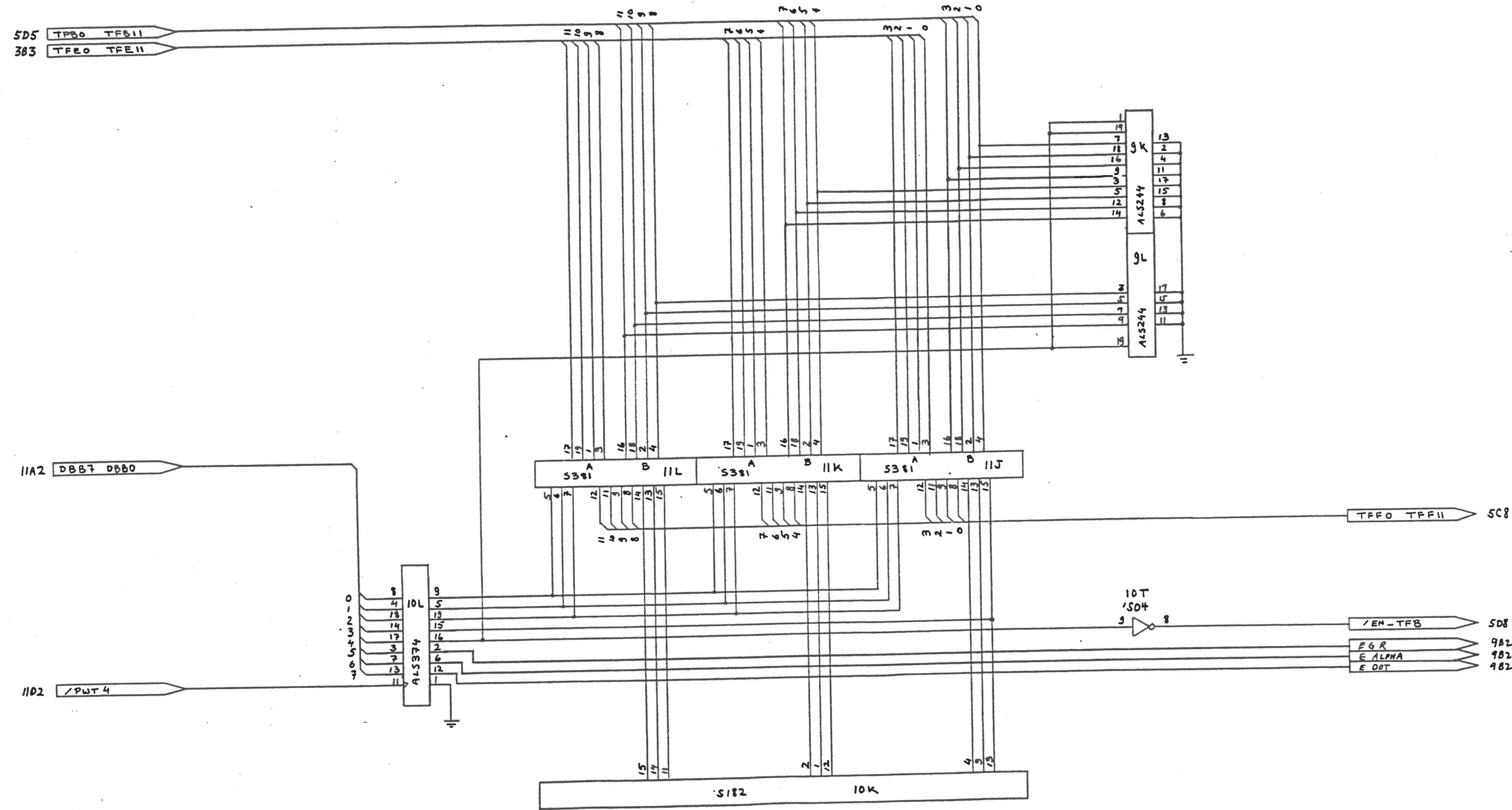
LEVEL 2

LEVEL 3

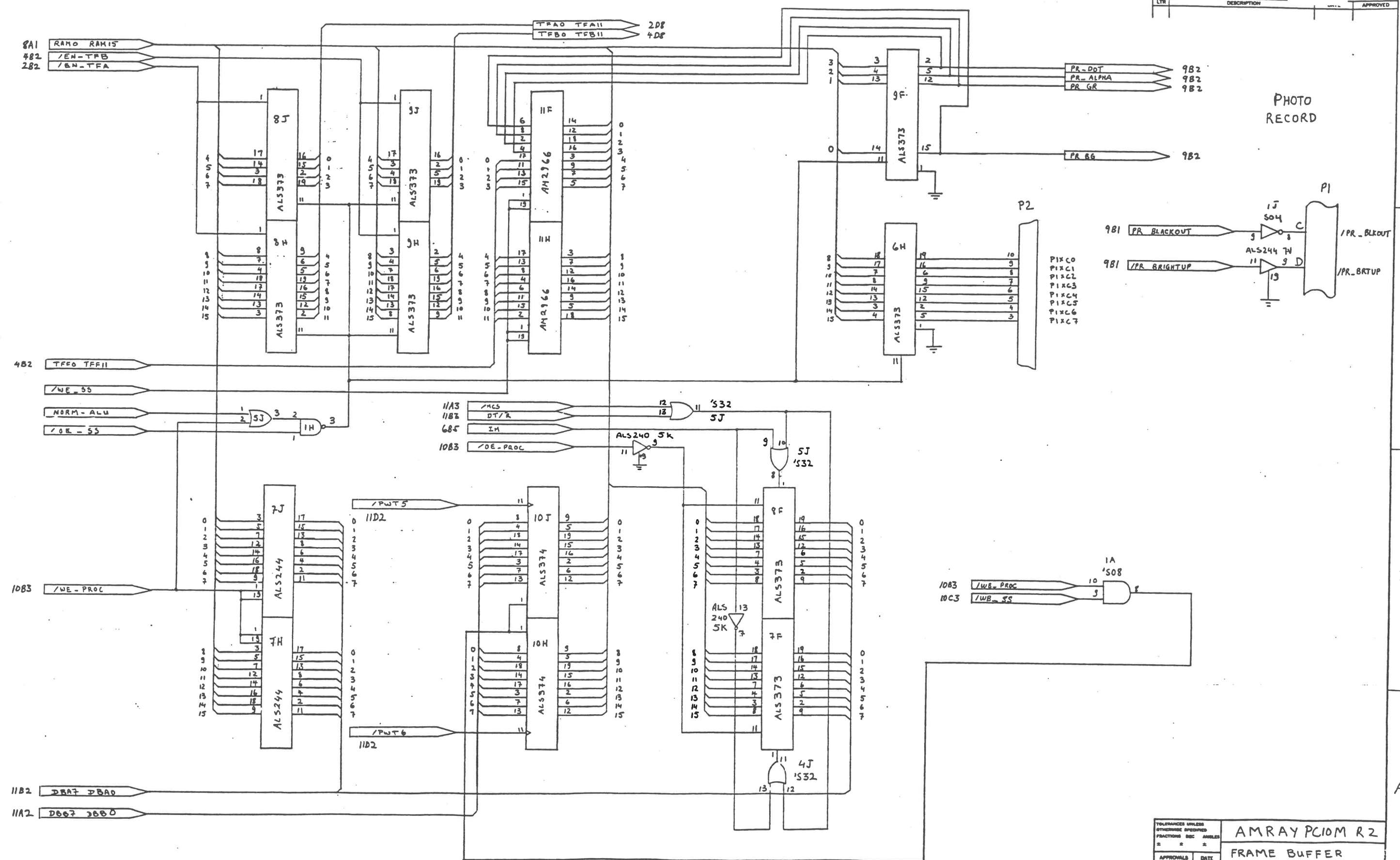


TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		AMRAY PC10M R2	
APPROVALS DRAWN		FRAME BUFFER SHIFTER	
CHECKED		DATE	DATE
REV A		SIZE	DRAWING NO.
DO NOT SCALE DRAWING		SHEET 3 of 15	

REVISIONS	
LTN	DESCRIPTION

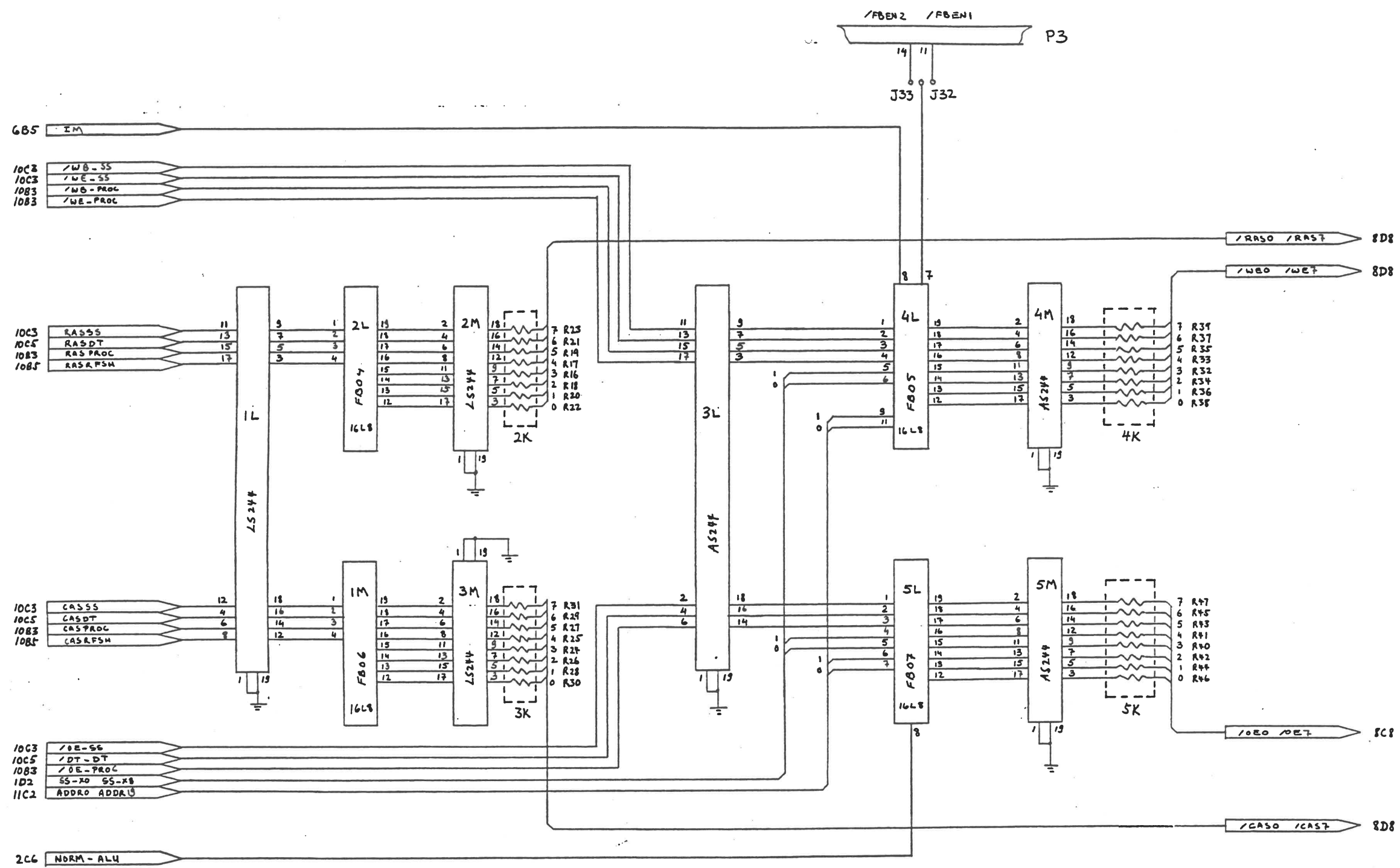


TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES		AMRAY PC10M R2	
±	°	FRAME BUFFER	
APPROVALS	DATE	ALU2	
DESIGN			
CHECKED			
		DATE	DRAWING NO.
		REV A	800 18 13D
DO NOT SCALE DRAWING		SHEET 4 of 15	



TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC ANGLES		AMRAY PC10M R2	
APPROVALS		DATE		FRAME BUFFER MEMORY INTERFACE	
DESIGN	CHECKED	DATE	DATE	REV A	D 800 15 13D
DO NOT SCALE DRAWING				SHEET 5 of 15	

REVISIONS	
LTR	DESCRIPTION



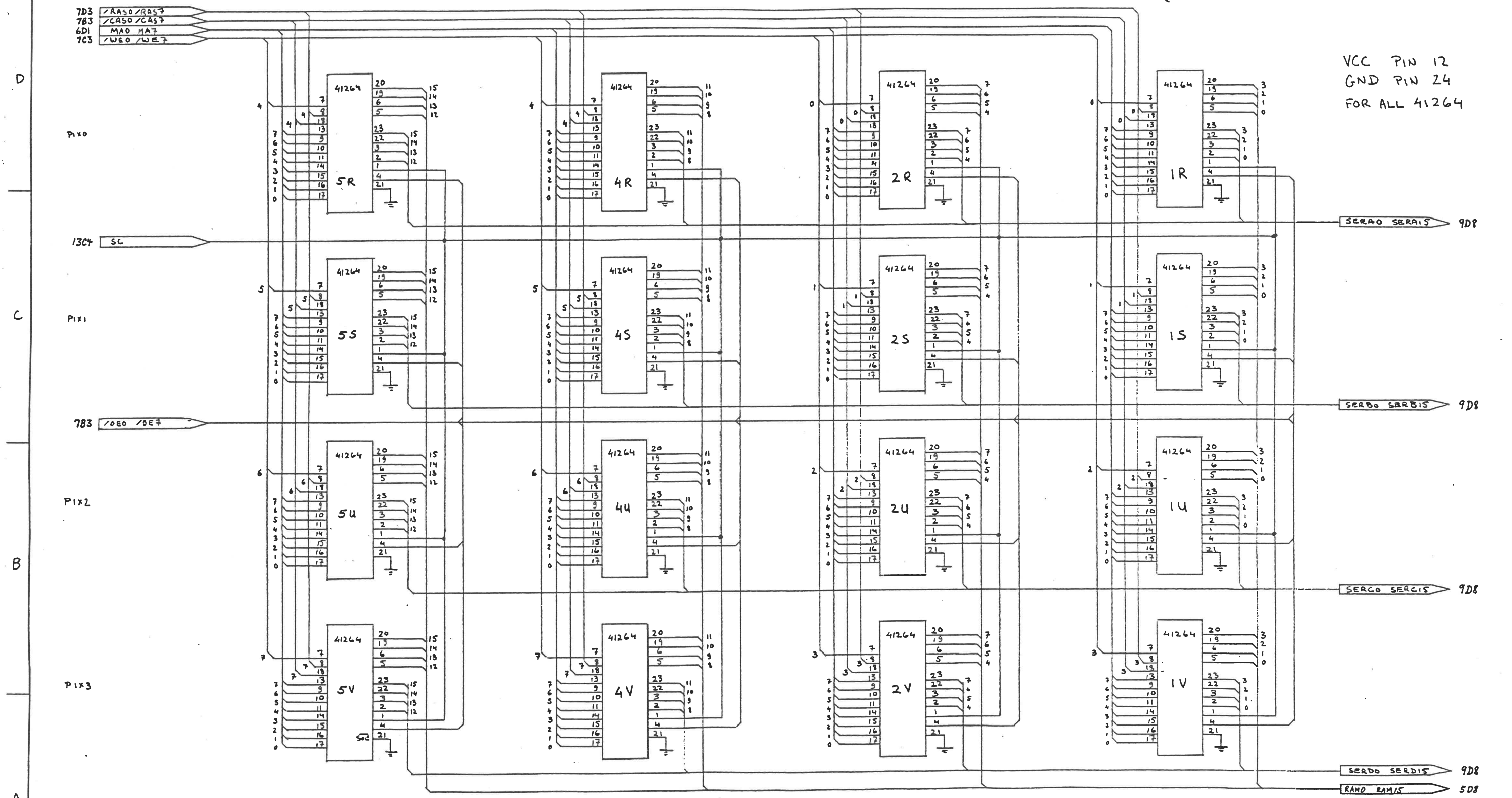
TOLERANCES UNLESS OTHERWISE SPECIFIED	
FRACTIONS	DEC
ANGLES	
APPROVALS	DATE
DRAWN	
CHECKED	
SCALE	SIZE
REV A	D
DO NOT SCALE DRAWING	
SHEET 7 of 15	

AMRAY PC10M R2
FRAME BUFFER
RAS CAS CONTROL

800 12 13D

7D3 /RAS0/RAS?
 7B3 /CAS0/CAS?
 6D1 MA0/MA?
 7C3 /WE0/WE?

VCC PIN 12
 GND PIN 24
 FOR ALL 41264



TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC ANGLES	
APPROVALS	DATE	SCALE	DRAWING NO.
CHECKED		REV A	D 800 18 13D
DO NOT SCALE DRAWING		SHEET 8 of 15	

8

7

6

5

4

3

2

65

REVISIONS		APPROVED
LTR	DESCRIPTION	

P2

PIXB0
 PIXB1
 PIXB2
 PIXB3
 PIXB4
 PIXB5
 PIXB6
 PIXB7

0 22
 1 21
 2 20
 3 19
 4 18
 5 17
 6 16
 7 15

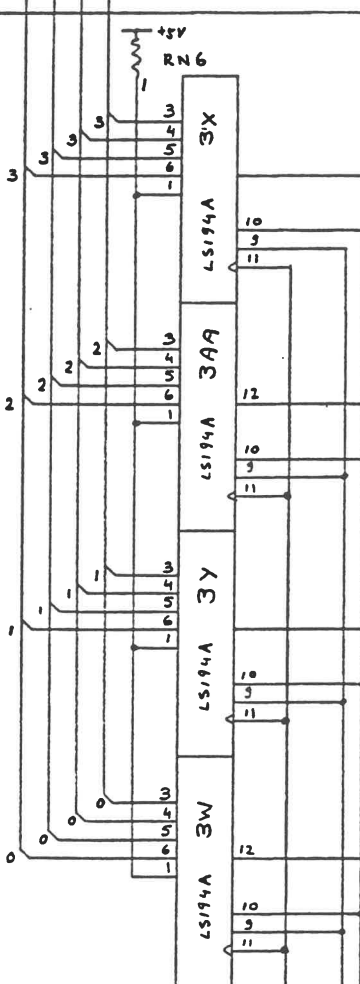
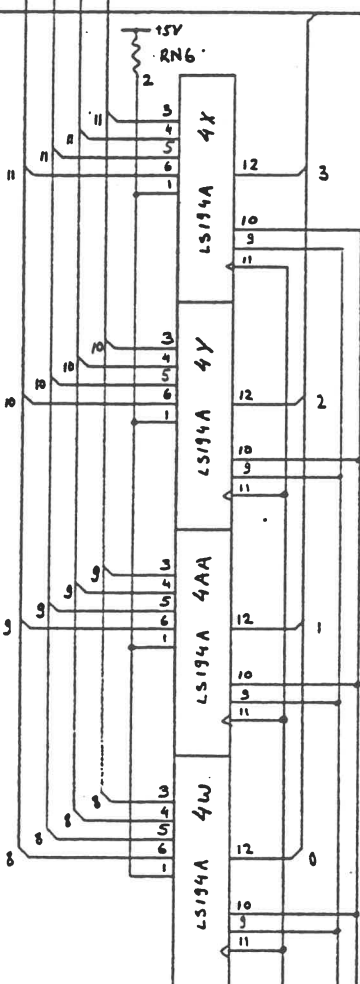
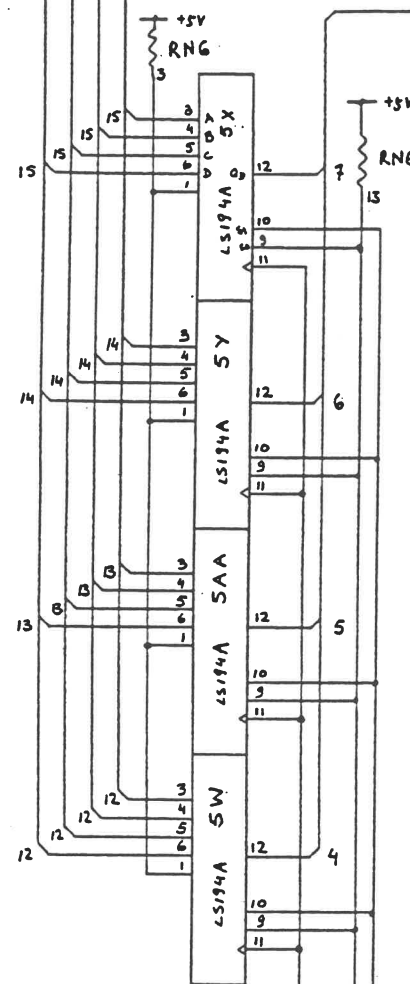
DOT 9A2
 ALPHA 9A2
 GR 9A2
 BG 9A2

6C1 EXT-MARGIN 1
 4B2 EDOT 2
 4B2 E ALPHA 3
 4B2 E GR 4
 3B6 E BGP 5
 3B6 E BGH 6
 5D2 PR DOT 7
 5D2 PR ALPHA 8
 5D2 PR GR 9
 5D2 PR BG 11
 9C3 DOT 13
 9C3 ALPHA 14
 9C3 GR 15
 9C3 BG 16

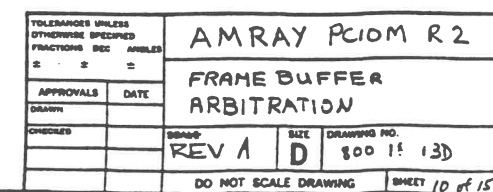
12 BLACK OUT 13C3
 17 PR BLACKOUT 5C2
 18 1/BRIGHTUP 13C3
 19 1/PR BRIGHTUP 5C2

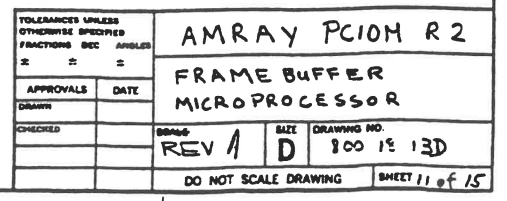
TOLERANCES UNLESS OTHERWISE SPECIFIED			AMRAY P10M R2		
FRACTIONS	DEC	ANGLES			
±	±	±			
APPROVALS		DATE	FRAM BUFFER.		
DRAWING			VIDEO REGISTERS		
CHECKED	ISSUED	SIZE	DRAWING NO.		
	REV A	D	800 18 13D		
DO NOT SCALE DRAWING			SHEET 9 of 15		

8A1 SERDO SERDIS
 8B1 SERCO SERCIS
 8C1 SERBO SERBIS
 8C1 SERAO SERAIS



13D2 VIDCLK
 13C4 S1





8

7

6

5

4

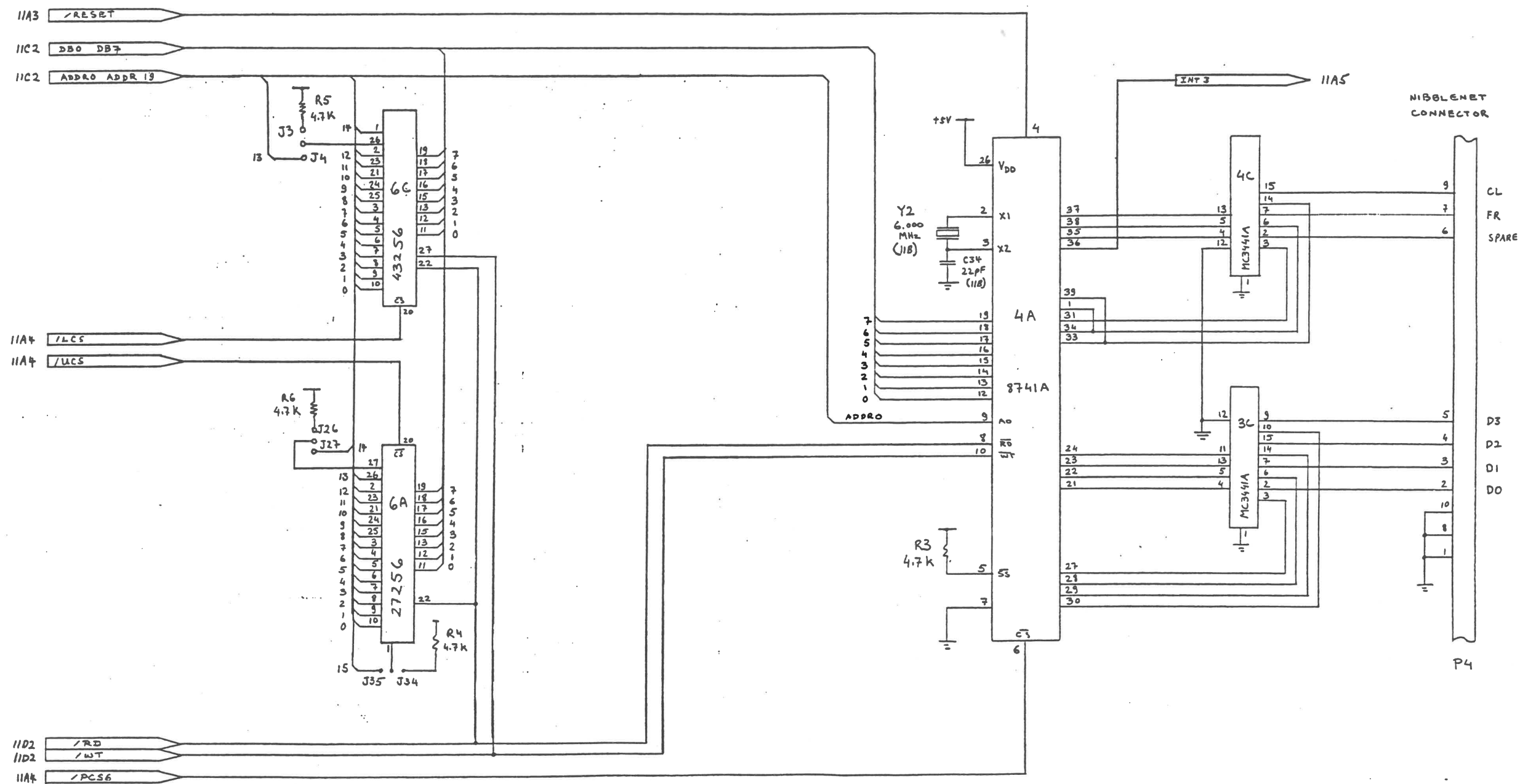
3

2

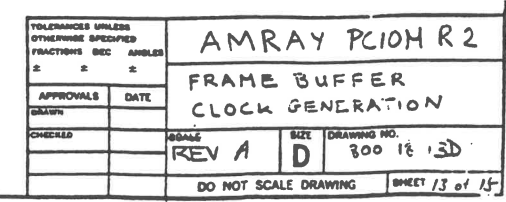
REVISIONS

68

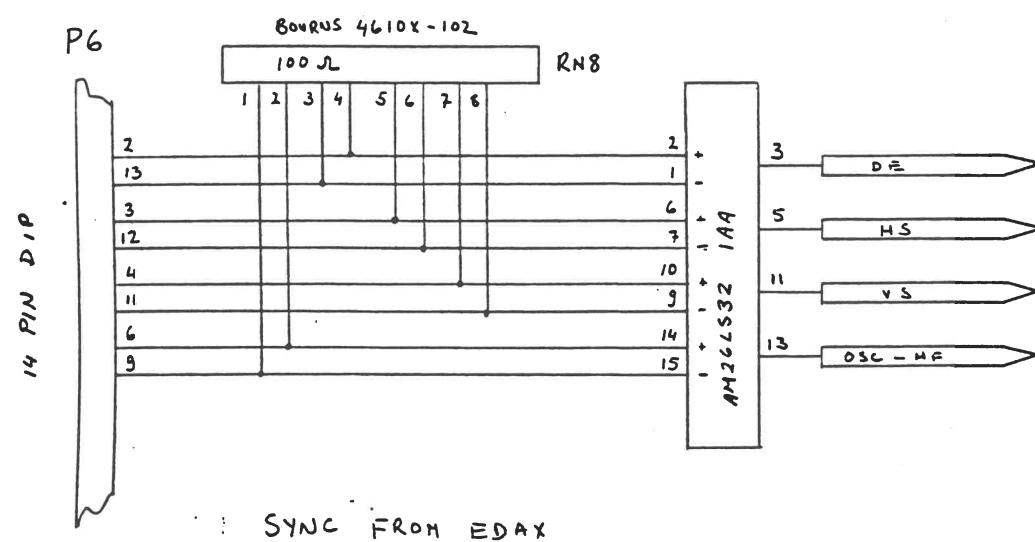
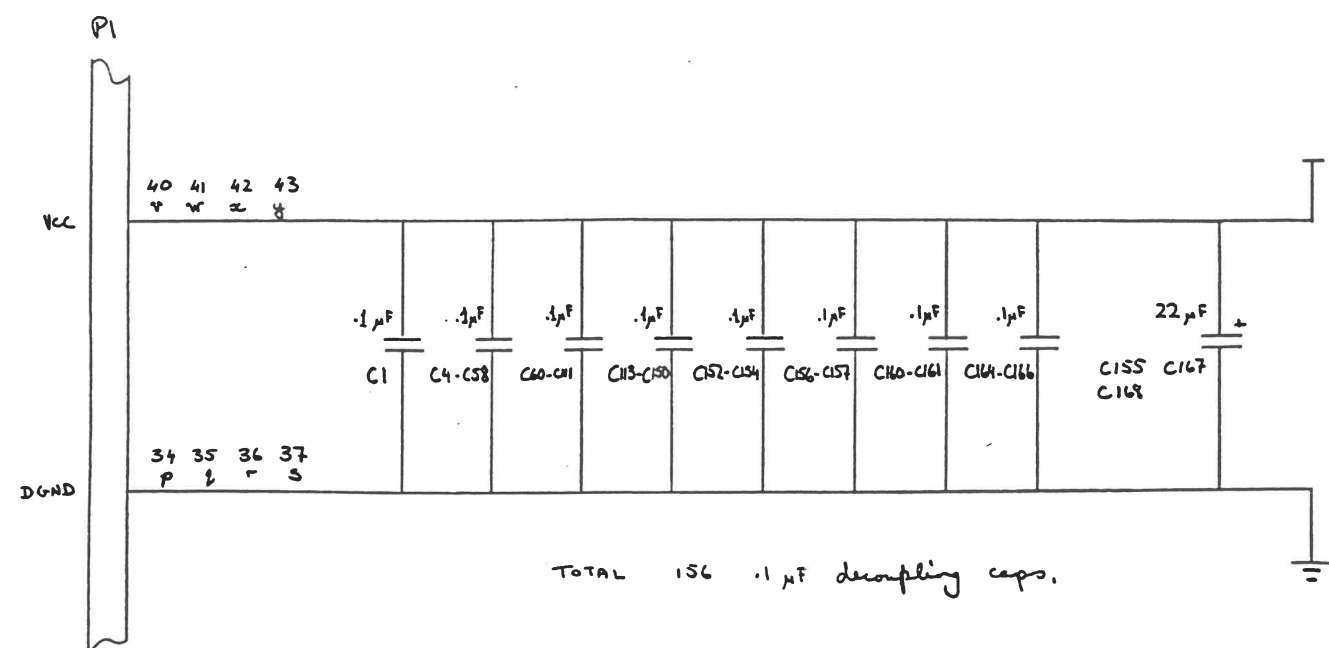
LTR DESCRIPTION APPROVED



TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC ANGLES		AMRAY FC10M R2	
=		=		FRAME BUFFER	
APPROVALS		DATE		NIBBLENET NODE	
DESIGN					
CHECKED					
REV A		D		300 12 13D	
DO NOT SCALE DRAWING				SHEET 12 of 15	







5

4

3

2

1

72

APPLICATION		REVISIONS				APPD
NEXT ASSY.	USED ON	LTR	DESCRIPTION	EL	DATE	
		A	RELEASE		10038 7/21/92	

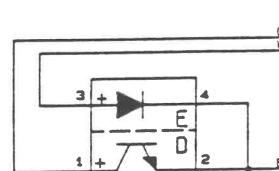
D

C

B

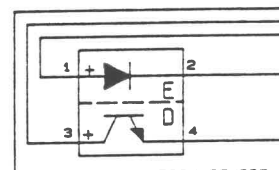
A

LOADLOCK CHAMBER

VEXTA
2 PHASE STEPPER MOTOR

LOADLOCK CARRIER SENSOR

FINGER SOLENOID

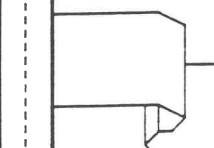


EXTENDED POSITION SWITCH

NO C

SENSOR CLOSEST TO GATE VALVE

RIBBON CABLE



VIO M

BRN N

W/YEL B

W/BLU D

WHT L

BLK A

GRN J

VIO C

GRY K

BLK H

RED 3

GRN 2

YEL 1

BLK 9

RED 10

BLK 11

RED 12

BLK 13

RED 14

BLK 15

RED 16

WHT 17

RED 18

WHT 19

RED 20

BLK 21

WHT 22

RED 23

BLK 24

WHT 25

RED 26

BLK 27

WHT 28

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BLK 291

WHT 292

RED 293

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BLK 297

WHT 298

RED 299

BLK 300

WHT 301

RED 302

BLK 303

WHT 304

RED 305

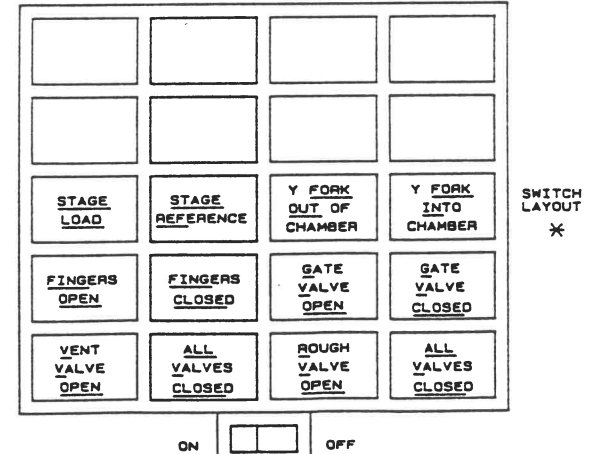
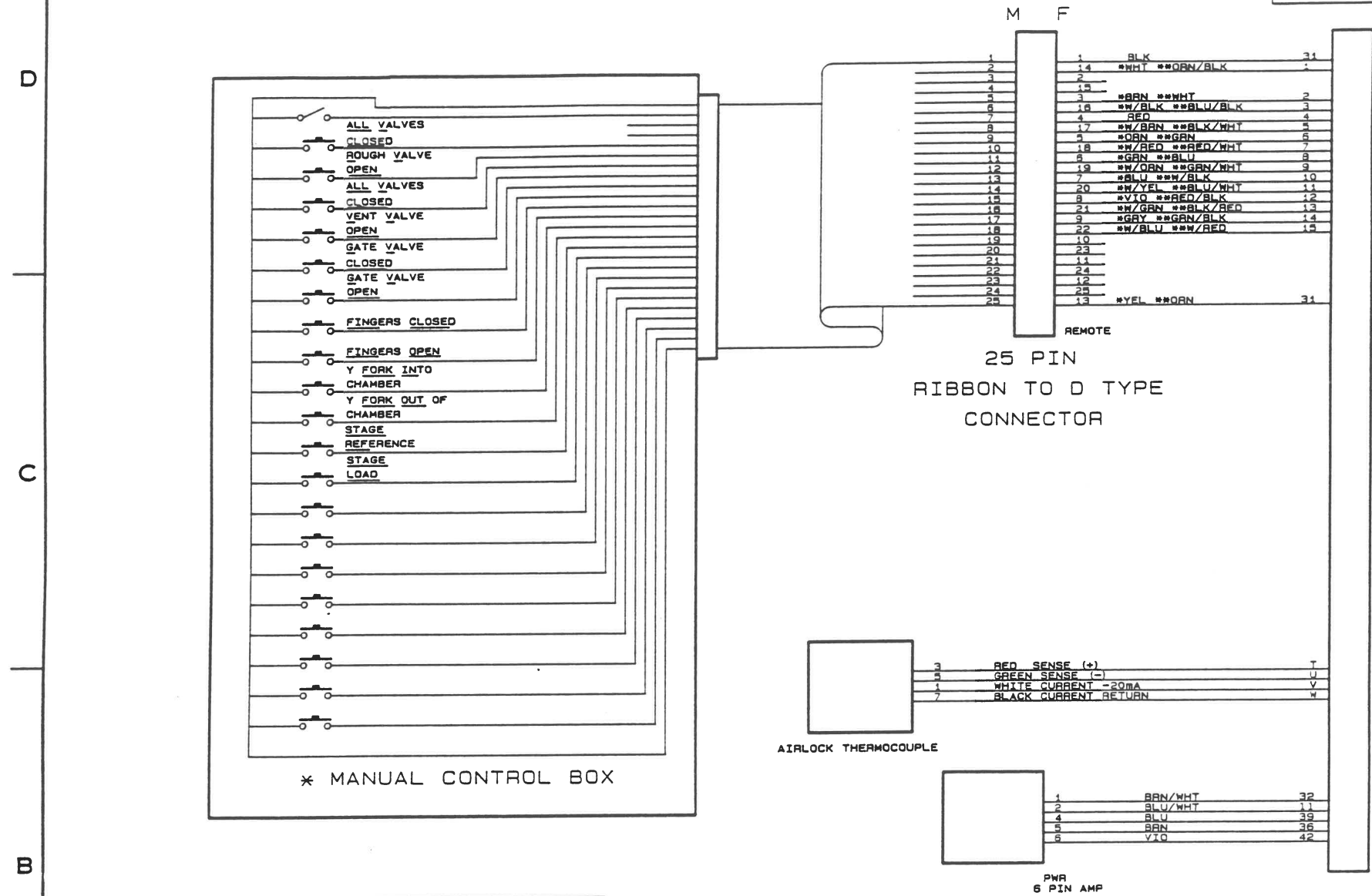
BLK 306

WHT 307

RED 308

BLK 309

APPLICATION		REVISIONS	
NEXT ASSY.	USED ON	LTR	DESCRIPTION



*CHARACTERS UNDERLINED REPRESENT ACTUAL TEXT APPEARING IN SWITCH BOX.

FILENAME: C82292P2.30R

PARTS LIST

AMRAY INC.		BEDFORD, MA	
DRAWN <i>[Signature]</i>	DATE 4/92	TITLE INTERCONNECT DIAGRAM, LOADLOCK	
CHKD. <i>[Signature]</i>	DATE 4-22-92		
APPD. <i>[Signature]</i>	DATE 5-6-92		
UNLESS OTHERWISE SPECIFIED		MATERIAL	
TOLERANCES	SURFACE	CODE IDENT. NO.	
.XX ±	ROUGHNESS		
.XXX ±	✓	SIZE C	DWG. NO. 800-2292
ANGLES ±		SCALE	WT.
REMOVE ALL BURRS		SHEET 2 OF 2	

REVISIONS				
ZONE	LTR	DESCRIPTION	ECO	DATE
A		RELEASE	60033	7/2/82
B		ADD HARDWARE TO DWG AND PARTS LIST, ADD NOTES	6123	8/3/83
C		ADD ITEM 112, NOTES 4-8	6123	95-10-12

NOTES:

1. MOUNT ALL 1W RESISTORS 3/8" MIN ABOVE BOARD.
2. BEFORE WAVE SOLDER, MASK HOLES FOR THE FOLLOWING COMPONENTS: G1, G2, Q3, Q4, B1, C3, U22, U31, U32, S1, S2
3. ALL LEDS ARE MOUNTED ON SOLDER (NON-COMPONENT) SIDE OF PC BOARD.
4. APPLY THERMAL GREASE BETWEEN IC PACKAGE AND HEATSINK.
5. APPLY THERMAL GREASE BETWEEN RESISTOR AND HEATSINK.
6. MOUNT ALL CAPACITORS (ITEM 17), FLUSH AGAINST BOARD.
7. ORIENT DIODES AND CAPACITORS SO THAT TYPE NUMBERS AND VALUES ARE VISIBLE.
8. SILKSCREEN FOR D36 AND D66 IS INTERCHANGED.

CUT TRACK

ASSEMBLY
SHEET 1 OF 6
(SHEETS 2-6 ARE C SIZE)

ITEM	PART/DWG NO	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC. BEDFORD, MA			
DATE	DATE	TITLE	
5-6-92	5-6-92	PCB ASSY, LOADLOCK CONTROL, PC11	
DATE	DATE		
95-5-6	95-5-6		
UNLESS OTHERWISE SPECIFIED		MATERIAL	PL 91163
TOLERANCES	SURFACE	SIZE	DWG. NO.
.XX	ROUGHNESS	D	91163
ANGLES	✓	SCALE	1X
REMOVE ALL BURRS		WT.	—
		SHEET	1 OF 6

5

4

3

2

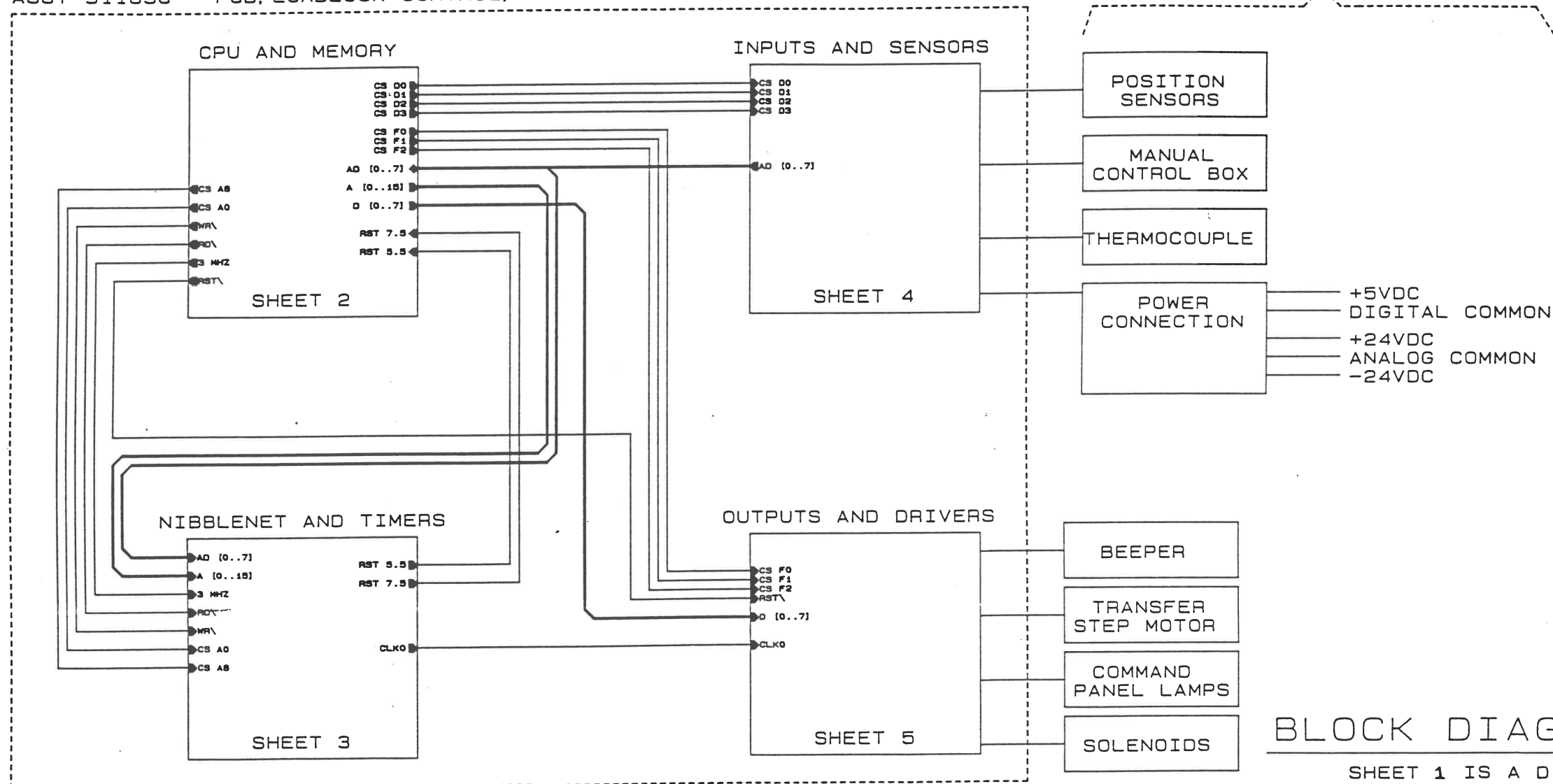
1

75

APPLICATION		REVISIONS			APPD
NEXT ASSY.	USED ON	LTR	DESCRIPTION	EC	

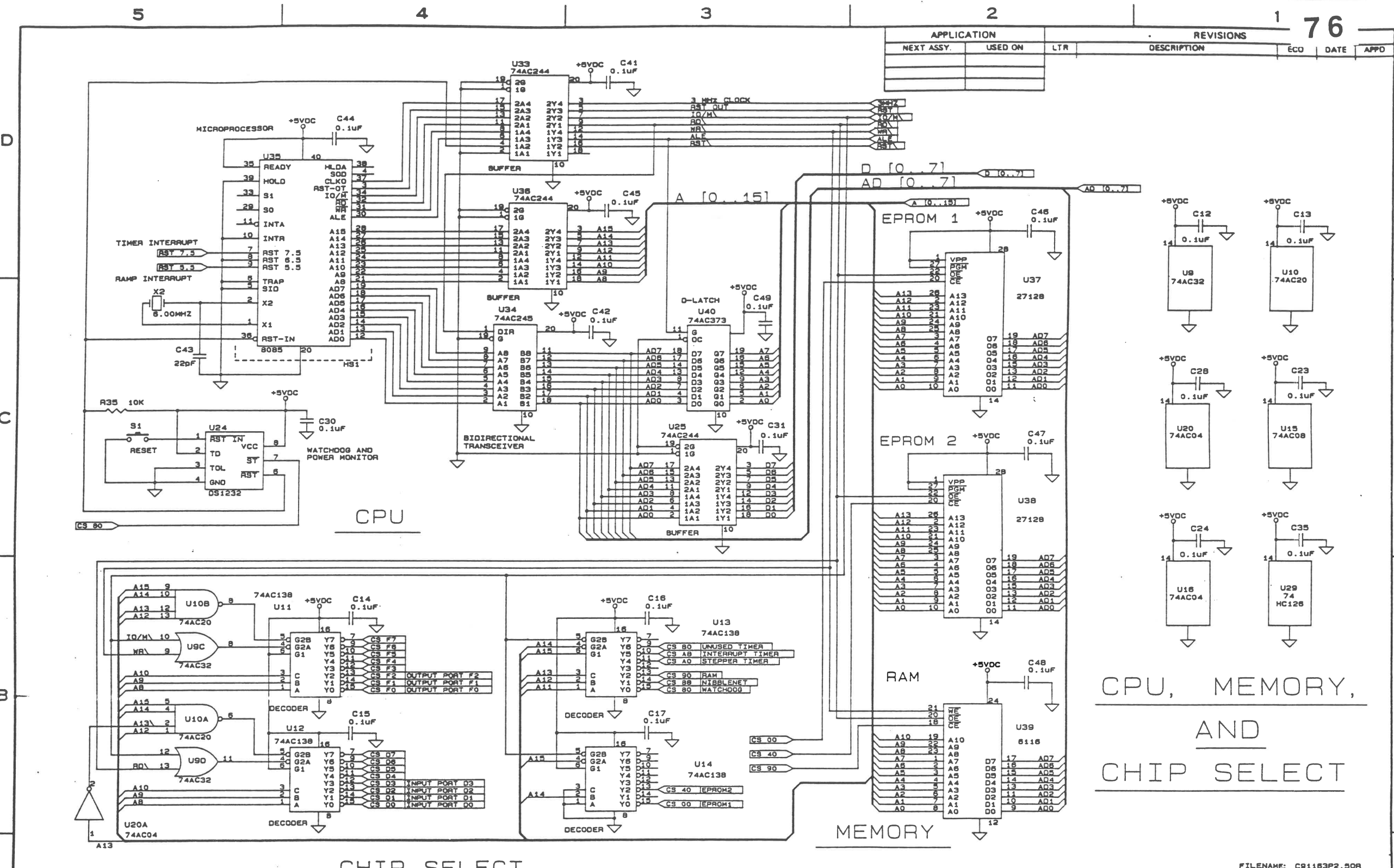
SEE INTERCONNECTION DIAGRAM
800-2292C

ASSY 91163C - PCB, LOADLOCK CONTROL, PC11



SCHEMATIC - BLOCK DIAGRAM

AMRAY INC.		BEDFORD, MA	
DRAWN <i>[Signature]</i>	DATE 4/92	TITLE PCB, LOADLOCK CONTROL, PC11	
CHKD. <i>[Signature]</i>	DATE 4-22-92	MATERIAL	
APPD. <i>[Signature]</i>	DATE 72-5-6	CODE IDENT. NO.	
UNLESS OTHERWISE SPECIFIED		REV. C	
TOLERANCES .XX XXX ANGLES	SURFACE ROUGHNESS ✓	SIZE C	DWG. NO. 91163
REMOVE ALL BURRS		SCALE	WT.
		SHEET 2 OF 6	

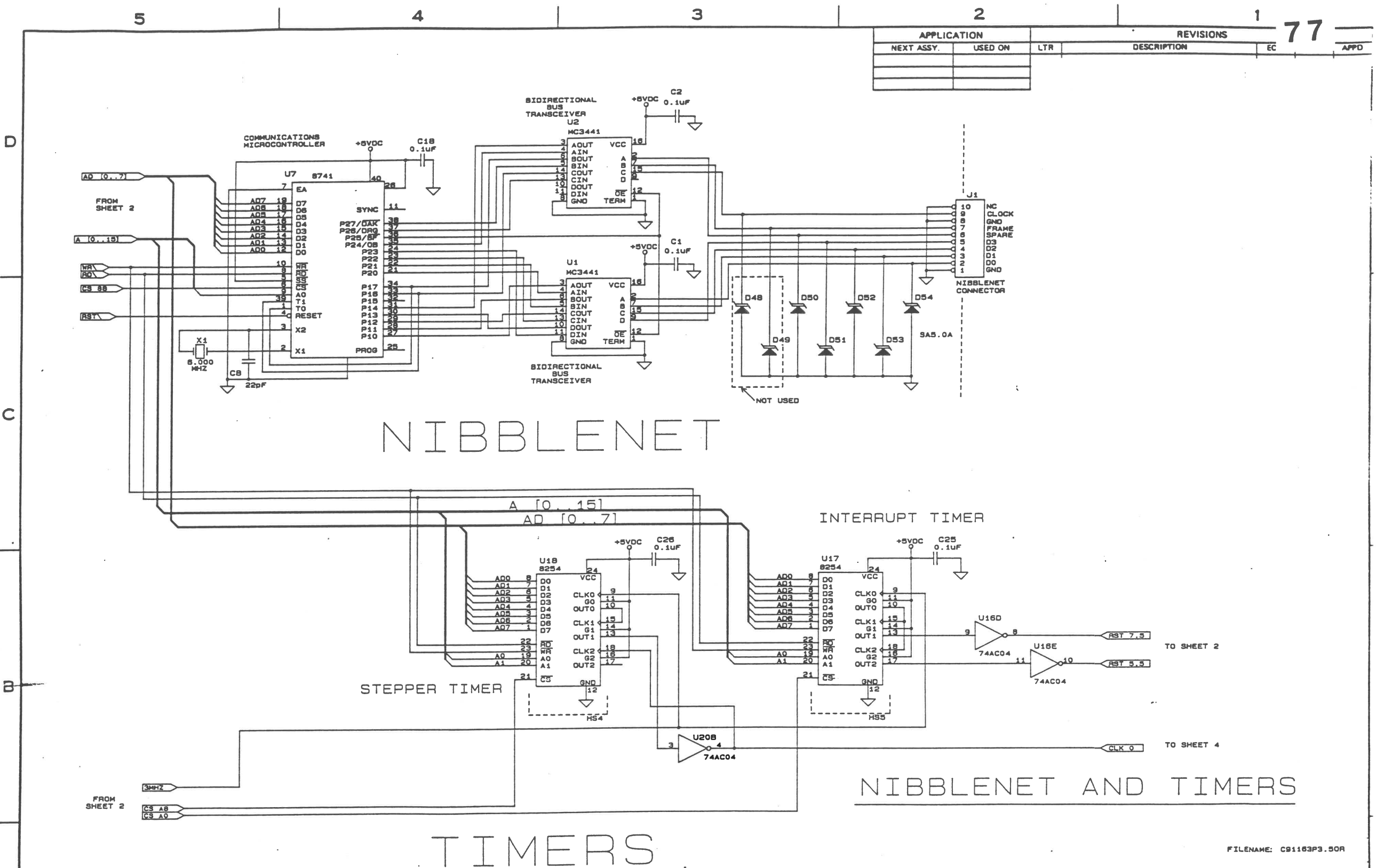


CPU, MEMORY,
AND
CHIP SELECT

FILENAME: C91163P2.50R

NOTES:
1. ALL RESISTORS ARE 1/4W, 1%, METAL FILM EXPRESSED IN OHMS UNLESS OTHERWISE NOTED.

AMRAY INC.		BEDFORD, MA	
DRAWN <i>[Signature]</i>	DATE 4/92	TITLE PCB, LOADLOCK CONTROL, PC11	
CHKD. <i>[Signature]</i>	DATE 4-22-92	APPRO. <i>[Signature]</i>	
UNLESS OTHERWISE SPECIFIED		MATERIAL	
TOLERANCES .XX ± .XXX ± ANGLES ±	SURFACE ROUGHNESS ✓	SIZE C	DWG. NO. 91163
REMOVE ALL BURRS		SCALE	WT.
		SHEET 3	OF 6



NOTES:
1. D48 AND D49 ARE NOT USED. DO NOT INSTALL. USE OF THESE DEVICES MAY HAVE DETRIMENTAL EFFECTS WITH NIBBLENET COMMUNICATIONS.

AMRAY INC.		BEDFORD, MA	
DRAWN: <i>Mark Jones</i>	DATE: 4/92	TITLE: PCB, LOADLOCK CONTROL, PC11	
CHKD: <i>Mark Jones</i>	DATE: 5/6/92		
APPD: <i>Jim Quevran</i>	DATE: 92-5-6		
UNLESS OTHERWISE SPECIFIED		MATERIAL	
TOLERANCES	SURFACE ROUGHNESS	SIZE	DWG. NO.
.XX ±	✓	C	91163
.XXX ±			
ANGLES ±			
REMOVE ALL BURRS		SCALE	WT.
		SHEET 4 OF 6	

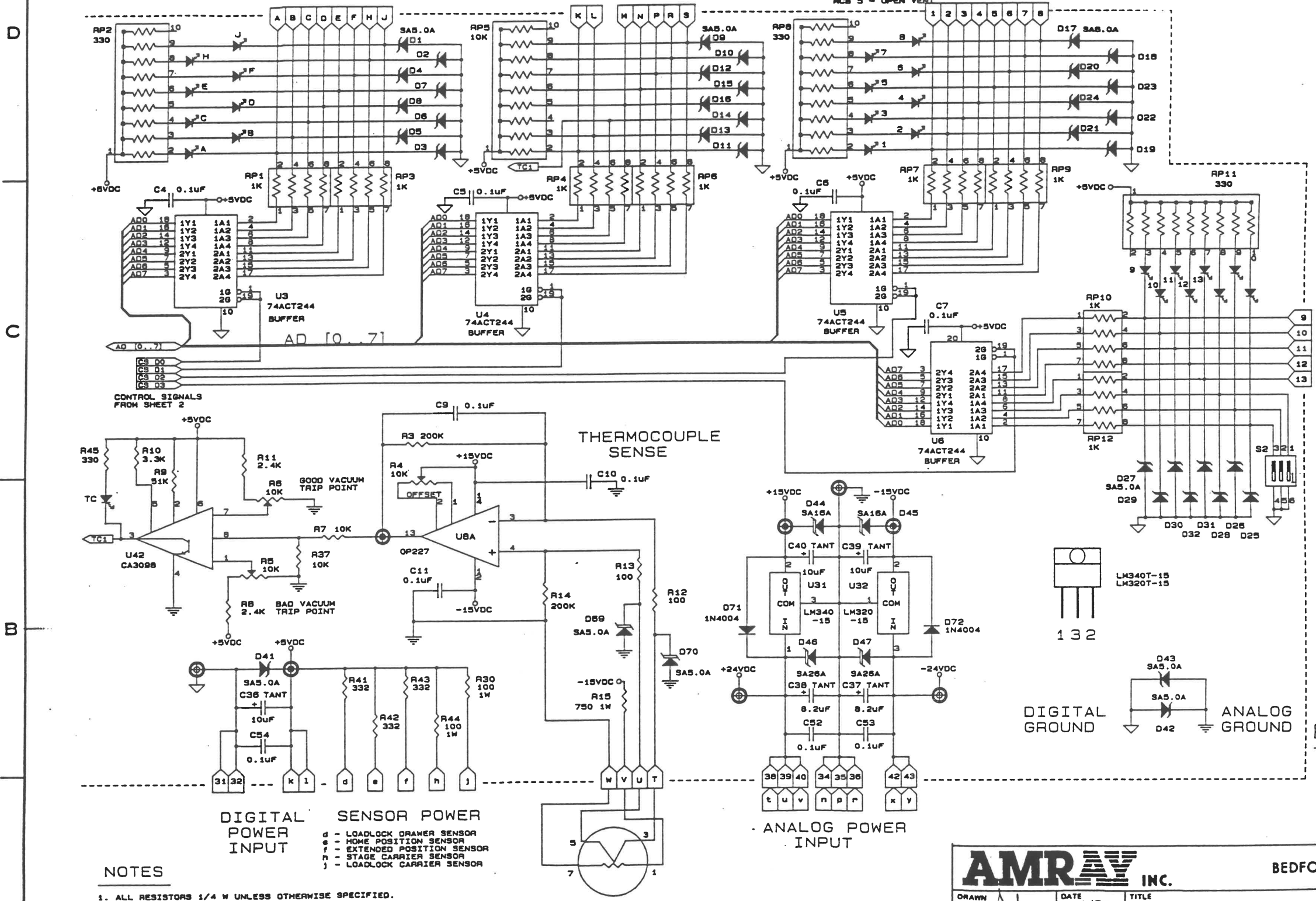
LTR	DESCRIPTION	EC	APPD
-----	-------------	----	------

MANUAL CONTROL
BOX (MCB)

- MCB 1 - MANUAL ON - LEFT
- MCB 2 - CLOSE ALL VALVES
- MCB 3 - OPEN ROUGH
- MCB 4 - CLOSE ALL VALVES
- MCB 5 - OPEN VENT
- MCB 6 - GATE VALVE CLOSED
- MCB 7 - GATE VALVE OPEN
- MCB 8 - FINGER CLOSED

- A - HOME POSITION SWITCH
- B - EXTENDED POSITION SWITCH
- C - HOME POSITION SENSOR
- D - EXTENDED POSITION SENSOR
- E - HALT / REFERENCE COMMAND
- F - LOAD COMMAND
- G - UNLOAD COMMAND

- K - LOADLOCK DRAWER SENSOR
- L - LOADLOCK CARRIER SENSOR
- M - STAGE CARRIER SENSOR
- N - GATE VALVE OPEN SENSOR
- P - GATE VALVE CLOSED SENSOR
- S -



MANUAL CONTROL

BOX (MCB)

- MCB 9 - RELEASE FINGER
- MCB 10 - EXTEND Y
- MCB 11 - HOME Y
- MCB 12 - STAGE REF
- MCB 13 - STAGE TO LOAD

PROGRAM SELECT

MODE	DS1	DS2	DS3
RUN	H	H	H
MANUAL	L	H	H
AIR	H	L	H
NO STAGE	H	H	L

HIGH - OPEN LOW - CLOSED

INPUTS AND

POWER

REGULATORS

NOTES

1. ALL RESISTORS 1/4 W UNLESS OTHERWISE SPECIFIED.
2. ADJUST GOOD VACUUM TRIP POINT SO THAT U42 PIN 7 MEASURES 1.85 VOLTS.
3. ADJUST BAD VACUUM TRIP POINT SO THAT U42 PIN 1 MEASURES 1.00 VOLTS.



BEDFORD, MA

DRAWN	DATE	TITLE
CHKD.	DATE	PCB, LOADLOCK CONTROL, PC11
APPD.	DATE	
UNLESS OTHERWISE SPECIFIED		MATERIAL
TOLERANCES	SURFACE ROUGHNESS	SIZE
.XX ±	✓	C
.XXX ±		DWG. NO. 91163
ANGLES ±		REV. C
REMOVE ALL BURRS		SCALE
		WT.
		SHEET 5 OF 6

5

4

3

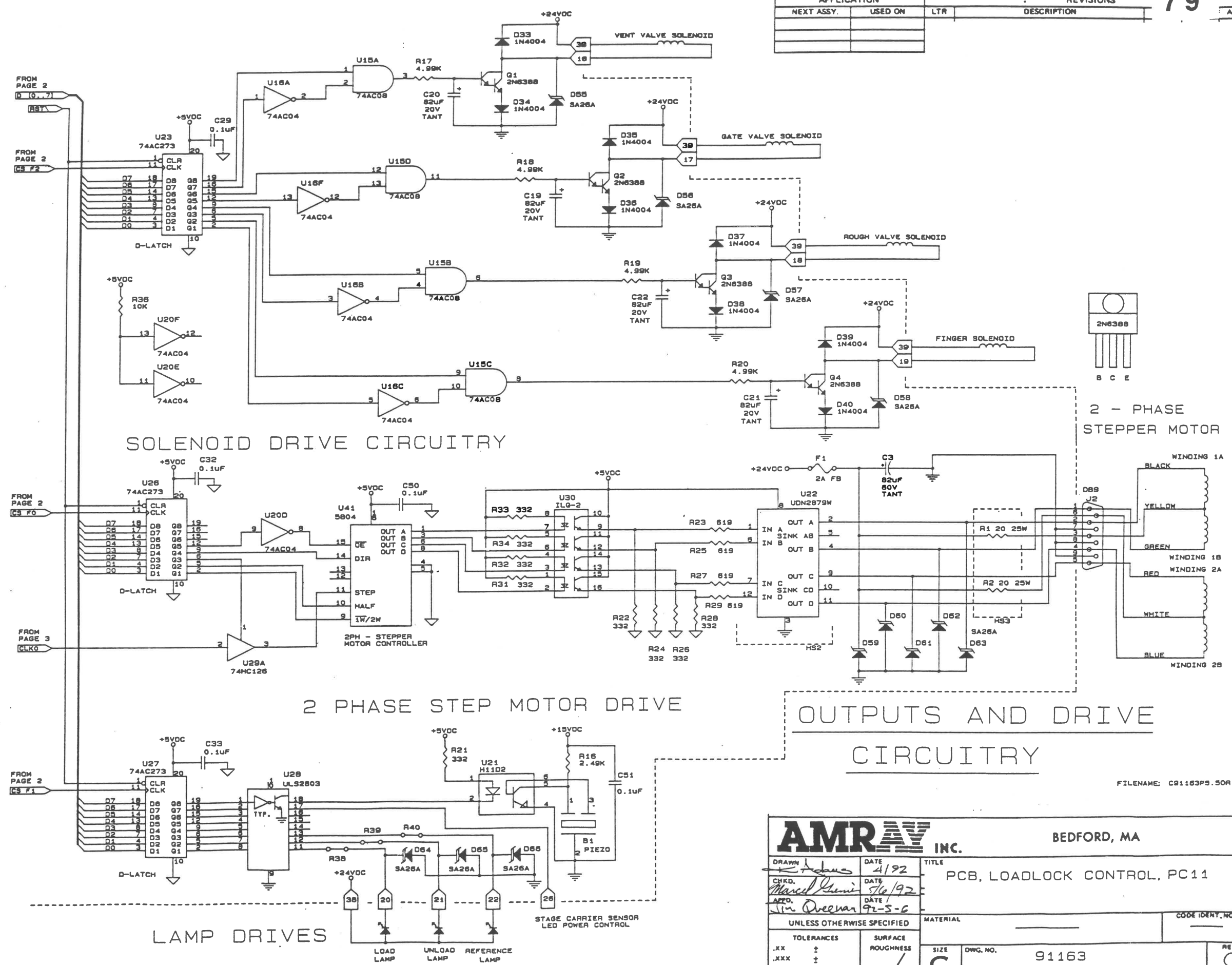
2

1

79

APPD

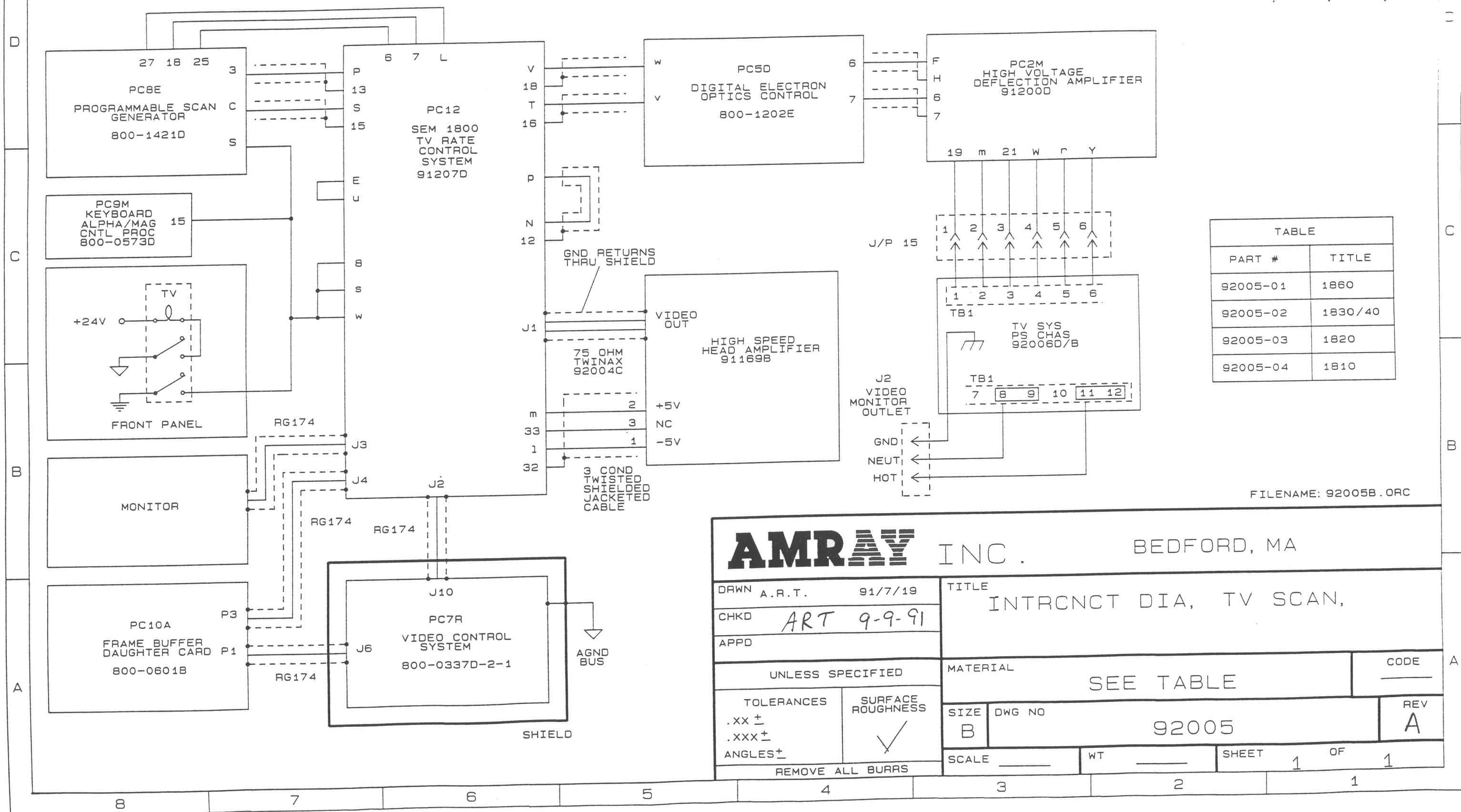
APPLICATION			REVISIONS	
NEXT ASSY.	USED ON	LTR	DESCRIPTION	

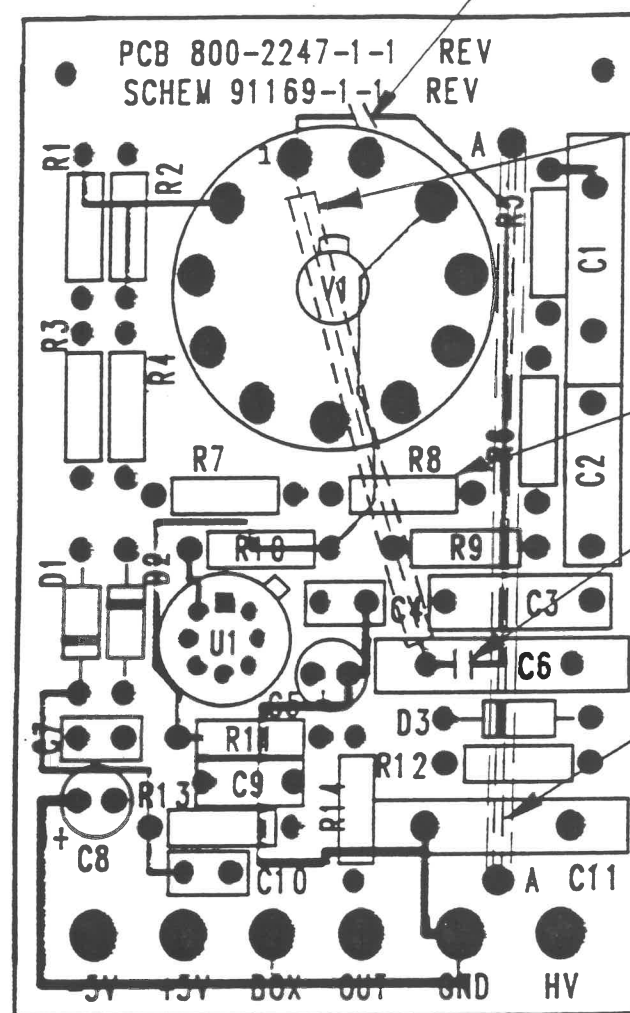


FILENAME: C91163P5.50R

AMRAY INC.		BEDFORD, MA	
DRAWN <i>Adams</i>	DATE 4/92	TITLE PCB, LOADLOCK CONTROL, PC11	
CHKD. <i>Marcel</i>	DATE 5/6/92	MATERIAL	
APPD. <i>Jim O'Brien</i>	DATE 9-5-92	CODE IDENT. NO.	
UNLESS OTHERWISE SPECIFIED		SIZE C	DWG. NO. 91163
TOLERANCES .XX ± .XXX ± ANGLES ±	SURFACE ROUGHNESS ✓	SCALE	WT.
REMOVE ALL BURRS		SHEET 6	OF 6

ZONE	REV	DESCRIPTION	ECO	DATE	APPO
	A	RELEASE	R0025	12-5-91	

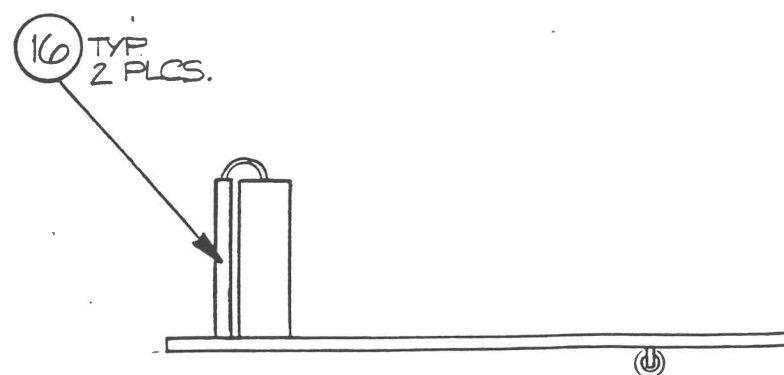




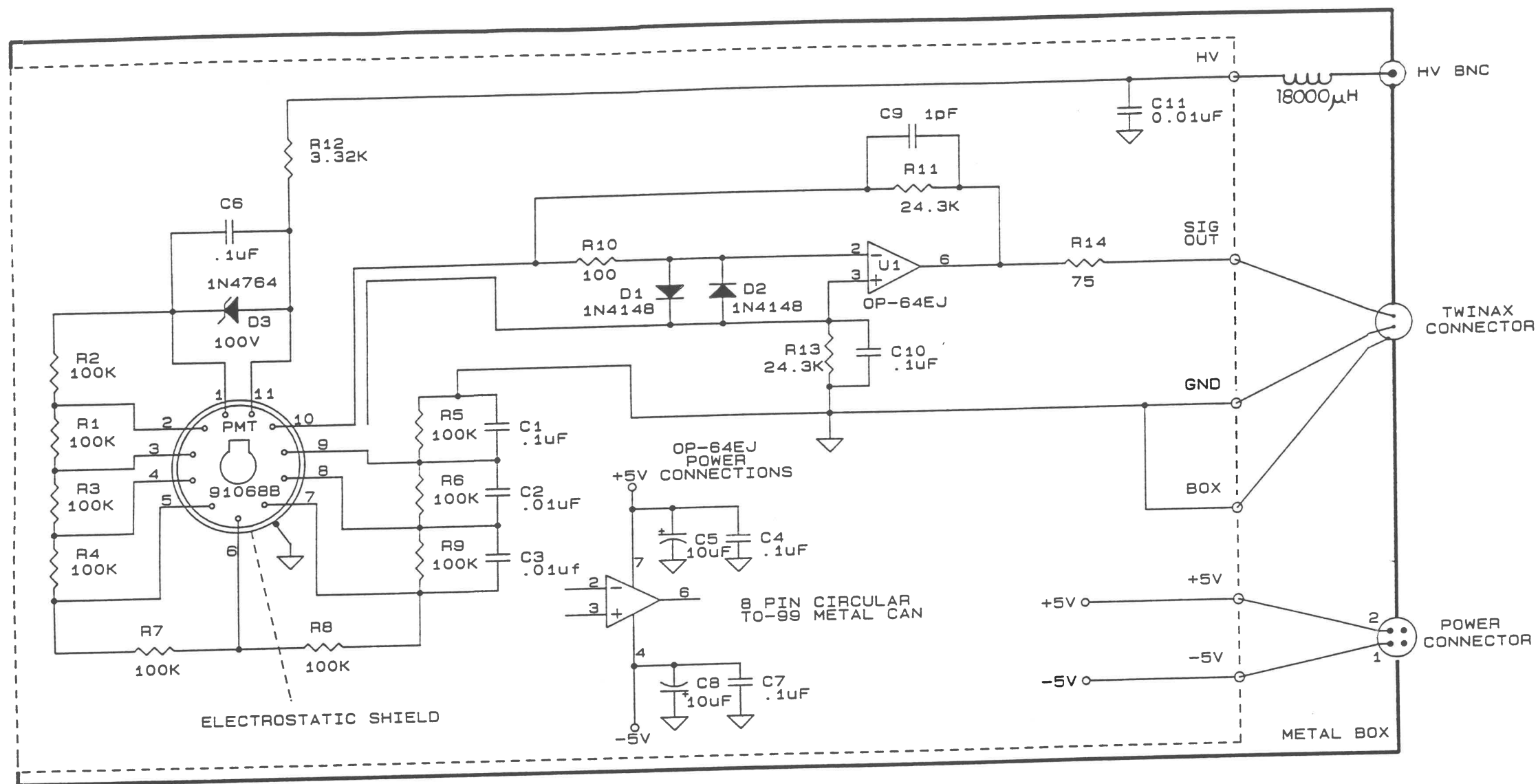
- NOTES:

- ①. ATTACH JUMPER WIRE ON BACK SIDE OF BOARD FROM A TO A. COVER WITH TUBING AS SHOWN.
- ②. CUT TRACES AS SHOWN (2 PLACES) ON COMPONENT SIDE OF BOARD.
- ③. ATTACH JUMPER WIRE ON BACK SIDE OF BOARD FROM VI PIN 1 TO C6 AS SHOWN. COVER JUMPER WIRE WITH TEFLON TUBING.
- ④. MOUNT R8 1/4 INCH ABOVE PC BOARD.

ASSEMBLY
SHEET 1 OF 2.



AMRAY		INC.		BEDFORD, MA	
DRAWN <i>[Signature]</i>	DATE 9.7.3	TITLE PCB ASSY, HEAD AMP, HIGH SPEED			
CHKD. ART	DATE 8-27-91				
APPD.	DATE				
UNLESS OTHERWISE SPECIFIED		MATERIAL PL 91169		CODE IDENT. NO. —	
TOLERANCES .XX + — .XXX + — ANGLES + —		SURFACE ROUGHNESS 		SIZE B	
		DWG. NO. 91169		REV. C	
REMOVE ALL BURRS		SCALE 2X	WT. —	SHEET 1	OF 2



SCHEMATIC SHEET 2 OF 2

FILENAME: 911698P2.0RC

AMRAY INC.

BEDFORD, MA

DRWN A.R.T. 91\7\19

CHKD ART 9-9-91

APPD

TITLE

PCB SCHEM, HEAD AMP,
HIGH SPEED

UNLESS SPECIFIED

MATERIAL

CODE

TOLERANCES

SURFACE
ROUGHNESS

SIZE

DWG NO

REV

.XX ±

.XXX ±

ANGLES ±

B

91169

C

SCALE

WT

SHEET

2

OF

2

REMOVE ALL BURRS

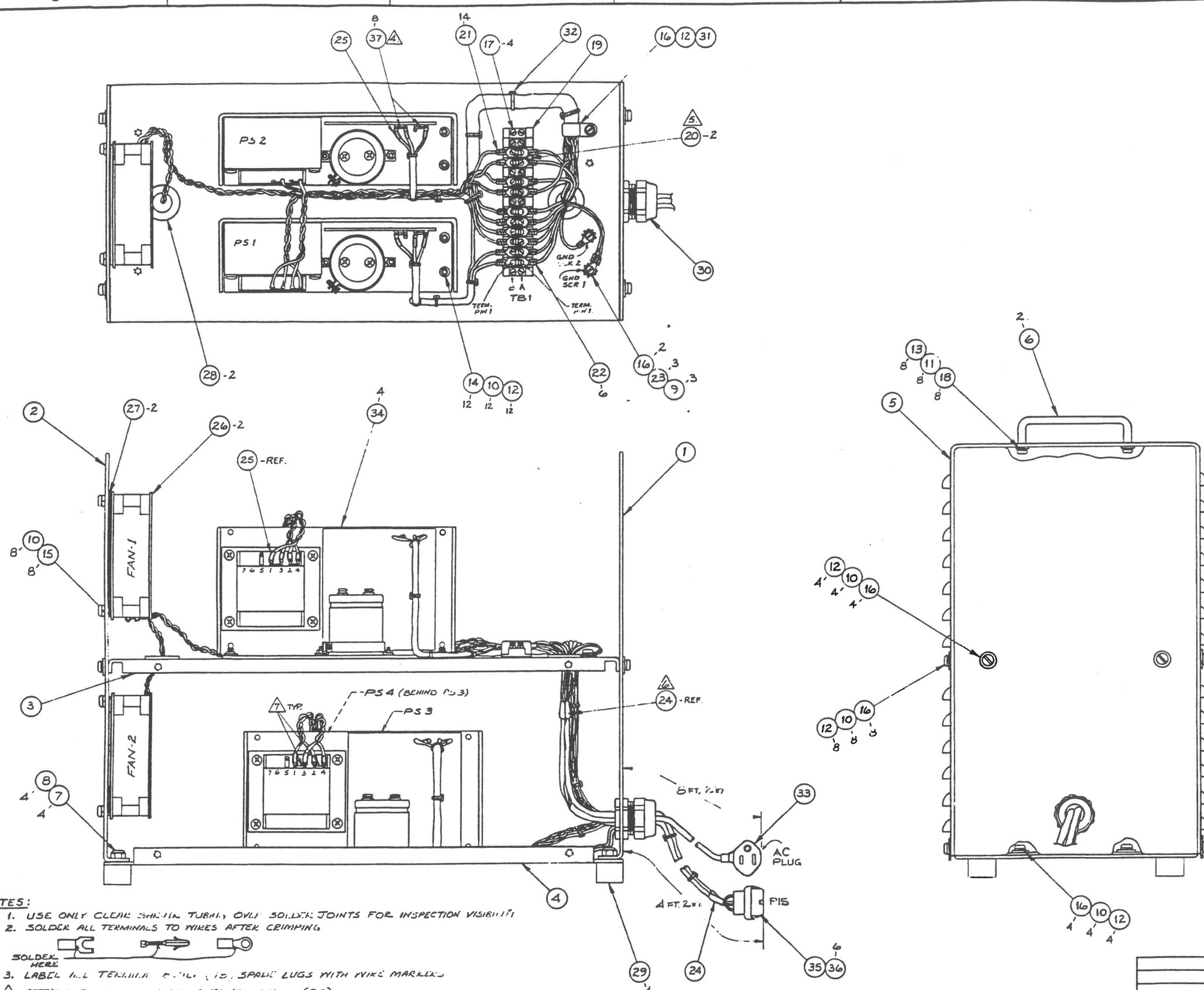
3

2

1

REVISIONS					
ZONE	LTR	DESCRIPTION	ECN	DATE	APPD
	A	RELEASE	2005	12-5-94	

WIRE LIST					
FROM	COLOR	GAUGE	LENGTH	PART NO.	TO
TB1A-1	BLUE	18	6 FT	113-333	PS1 - PIN 1
TB1A-2	BROWN	18			PS1 - PIN 2
TB1A-3	GREEN/YELLOW	18			PS1 - PIN 3
GND SCR 1	SHIELD				NC
TB1A-4	BLUE	18	6 FT	113-333	PS2 - PIN 4
TB1A-5	BROWN	18			PS2 - PIN 5
TB1A-6	GREEN/YELLOW	18			PS2 - PIN 6
GND SCR 1	SHIELD				NC
TB1A-7	NC				NC
TB1A-8	WHITE	18 THST	42 IN	113-202	FAN-1
TB1A-12	BLACK	18			FAN-1
TB1A-10	NC				NC
TB1A-11	BLACK		8 FT	080-098	AC PLUG (HOT)
TB1A-9	WHITE				AC PLUG (NEUT)
GND SCR 2	GREEN				AC PLUG (GROUND)
FAN-1	WHITE	18 THST	27 IN	113-202	FAN-2
FAN-1	BLACK	18			FAN-2
TB1A-13	NC				NC
TB1B-1	WHITE/GREEN	18	15 IN	113-240	PS1, (-OUT)
TB1B-2	BROWN	18	16 IN	113-189	PS1, (-OUT)
TB1B-3	ORANGE/WHITE	18	15 IN	113-244	PS2, (-OUT)
TB1B-4	WHITE/GREEN	18	42 IN	113-240	PS3, (+OUT)
TB1B-5	BROWN	18	15 IN	113-189	PS4, (+S)
TB1B-6	ORANGE/WHITE	18	12 IN	113-294	PS4, (-OUT)
TB1B-7	NC				NC
TB1B-8	WHITE	18 THST	15 IN	113-202	PS1, TRANS. PIN-4
TB1B-12	BLACK	18			PS1, TRANS. PIN-3
TB1B-10	NC				NC
TB1B-11	BLACK	18 THST	48 IN	113-202	PS3, TRANS. PIN-1
TB1B-9	WHITE	18			PS3, TRANS. PIN-2
TB1B-13	NC				NC
PS1, (-S)	BROWN	18	24 IN	113-189	PS2, (+S)
PS2, (-OUT)	BROWN	18	42 IN	113-189	PS3, (-S)
PS3, (-OUT)	BROWN	18	24 IN	113-189	PS4, (+OUT)
PS1, TRANS. PIN-2	WHITE	18 THST	12 IN	113-202	PS2, TRANS. PIN-4
PS1, TRANS. PIN-1	BLACK	18			PS2, TRANS. PIN-3
PS3, TRANS. PIN-4	WHITE	18 THST	12 IN	113-202	PS4, TRANS. PIN-2
PS3, TRANS. PIN-3	BLACK	18			PS4, TRANS. PIN-1



NOTES:

- USE ONLY CLEAR SHIELD TUBING OVER SOLDER JOINTS FOR INSPECTION VISIBILITY
- SOLDER ALL TERMINALS TO WIRES AFTER CRIMPING
- LABEL ALL TERMINAL BLOCKS (TB), SPARE LUGS WITH WIRE MARKING

SOLDER HERE

ATTACH BUS WIRE ON ALL 4 POWER SUPPLY (PS)
FROM +OUT TO +S
FROM -OUT TO -S

ATTACH JUMPER ON TERMINAL BLOCK (TB)
FROM TB1A-8 TO TB1A-9
FROM TB1A-11 TO TB1A-12

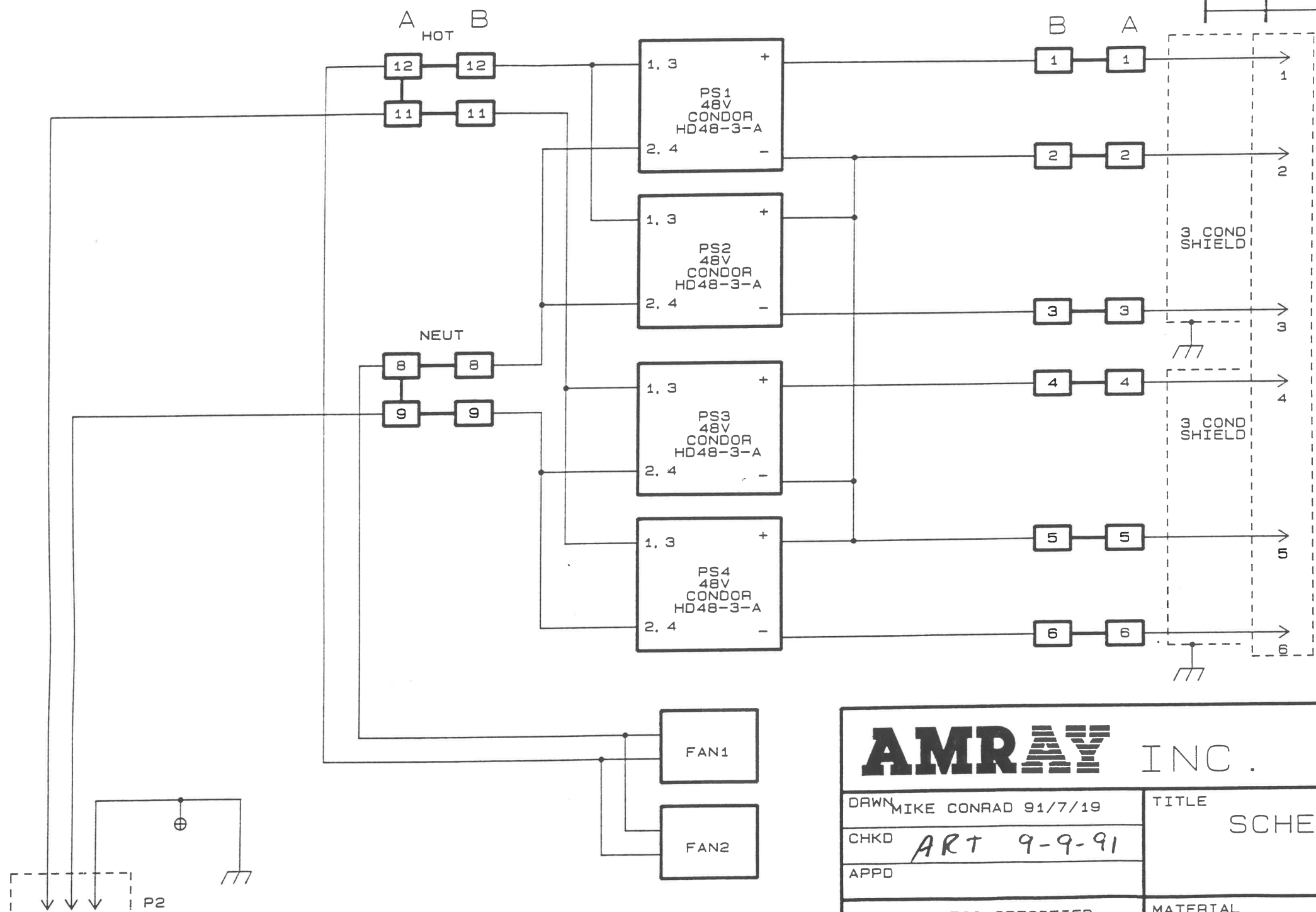
STRIP JACKET BACK TO THIS AREA ON BOTH CABLES.

ATTACH LUG WIRE ON ALL 4 POWER SUPPLIES
FROM PIN 2 & PIN 4

ASSEMBLY SHEET 1 of 2
SHEET 2 IS B SIZE

ITEM	PART/DWG NO.	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC. BEDFORD, MA			
DATE	6/14/91	TITLE	CHAS ASSY, PS, TV SYS.
CHKD.	ART	DATE	8-27-91
APPL.		DATE	
UNLESS OTHERWISE SPECIFIED		MATERIAL	SEE PARTS LIST
TOLERANCES	SURFACE	SIZE	DWG. NO.
FRACTIONAL	ROUGHNESS	D	92006
DECIMAL		SCALE	1/2 X
ANGLES		WT.	
APPLICATION		REMOVE ALL BURRS	SHEET 1 OF 2

ZONE	REV	DESCRIPTION	ECO	DATE	APPD



P15
6 PIN AMP
FEMALE CONN

SCHEMATIC

SHEET 2 OF 2

(SHEET 1 IS D SIZE)

FILENAME: 92006DP2.0RC

AMRAY INC.		BEDFORD, MA	
DRWN MIKE CONRAD 91/7/19		TITLE SCHEM, CHAS, PS, TV SYS	
CHKD ART 9-9-91			
APPD			
UNLESS SPECIFIED		MATERIAL	
TOLERANCES .XX ± .XXX ± ANGLES ±		SIZE B DWG NO 92006	
SURFACE ROUGHNESS ✓		REV A	
REMOVE ALL BURRS		SCALE WT SHEET 2 OF 2	

REVISIONS					
ZONE	LTR	DESCRIPTION	ECO	DATE	APPO
A		RELEASE PART NO. WAS 92107	RD	91 11 22	
B		REDRAWN, ADDED MODIFICATIONS, SHEET 1 WAS SHEET 3	6061	93 16	DT
C		SCHEMATIC D42 AND C26-129 DIFFER FROM COMPUTER FILE, TERMINAL 1 AND WERE SV, ADDED D42, OTHER CHANGES, ADD MIL 5 IN JRLT	6061	93 10 8	DT

SHEET 1 NOTES

1. INSTALL INSULATOR PAD (ITEM 88) BETWEEN HEAT SINK AND PCB.
2. INSTALL ALL CAPACITORS FLUSH WITH PCB SURFACE. THERE SHOULD BE NO CAPACITOR LEADS EXPOSED.
3. PART NO. -02 VERSION IS POPULATED ONLY WITH COMPONENTS WITHIN DOUBLE DASHED AREAS ON SCHEMATIC SHEETS 2 AND 3.

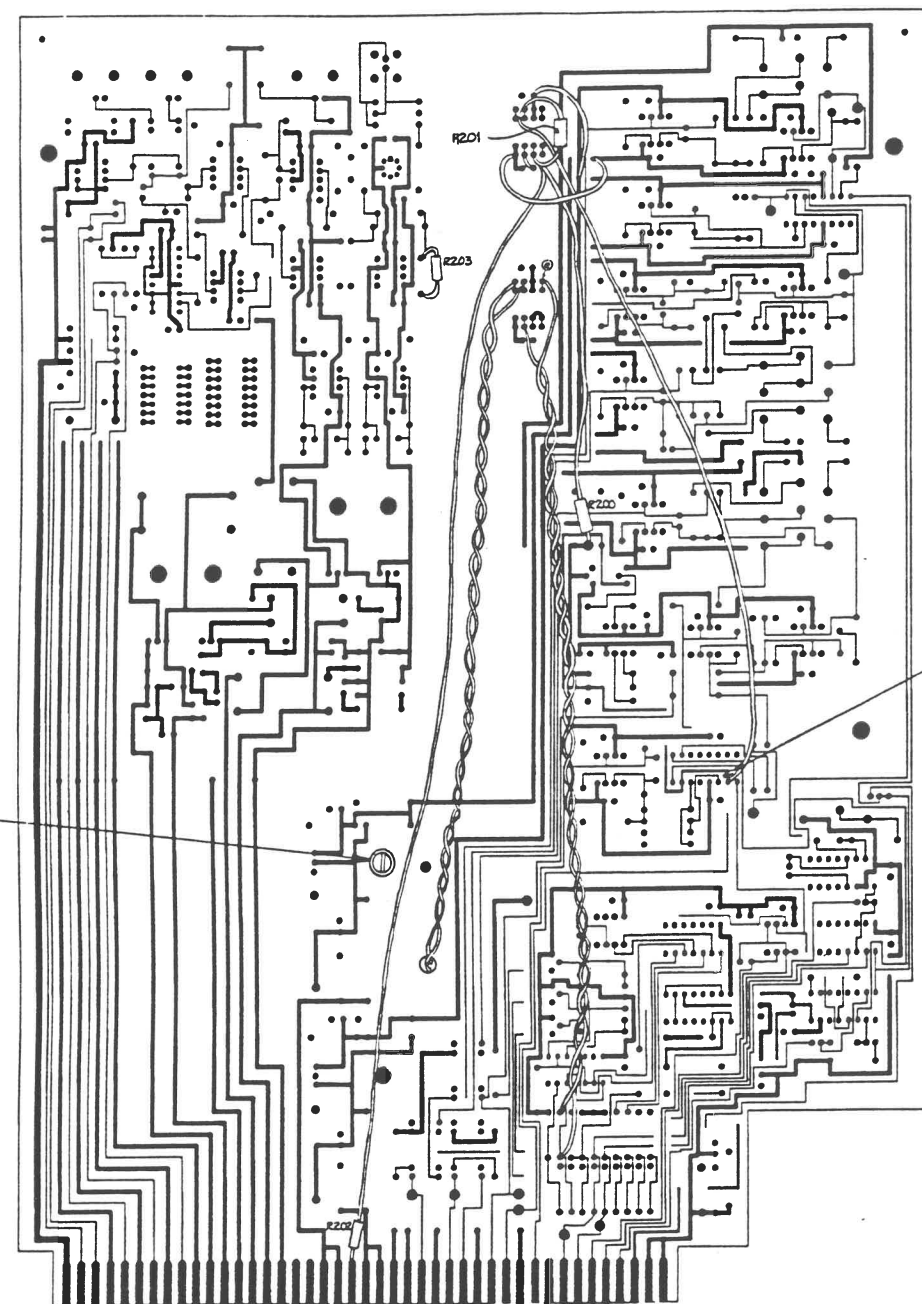
PART NO.	TITLE	PARTS LIST
92107-01	TV RATE	92107-01
92107-02	RPD SCAN	92107-02

ASSEMBLY

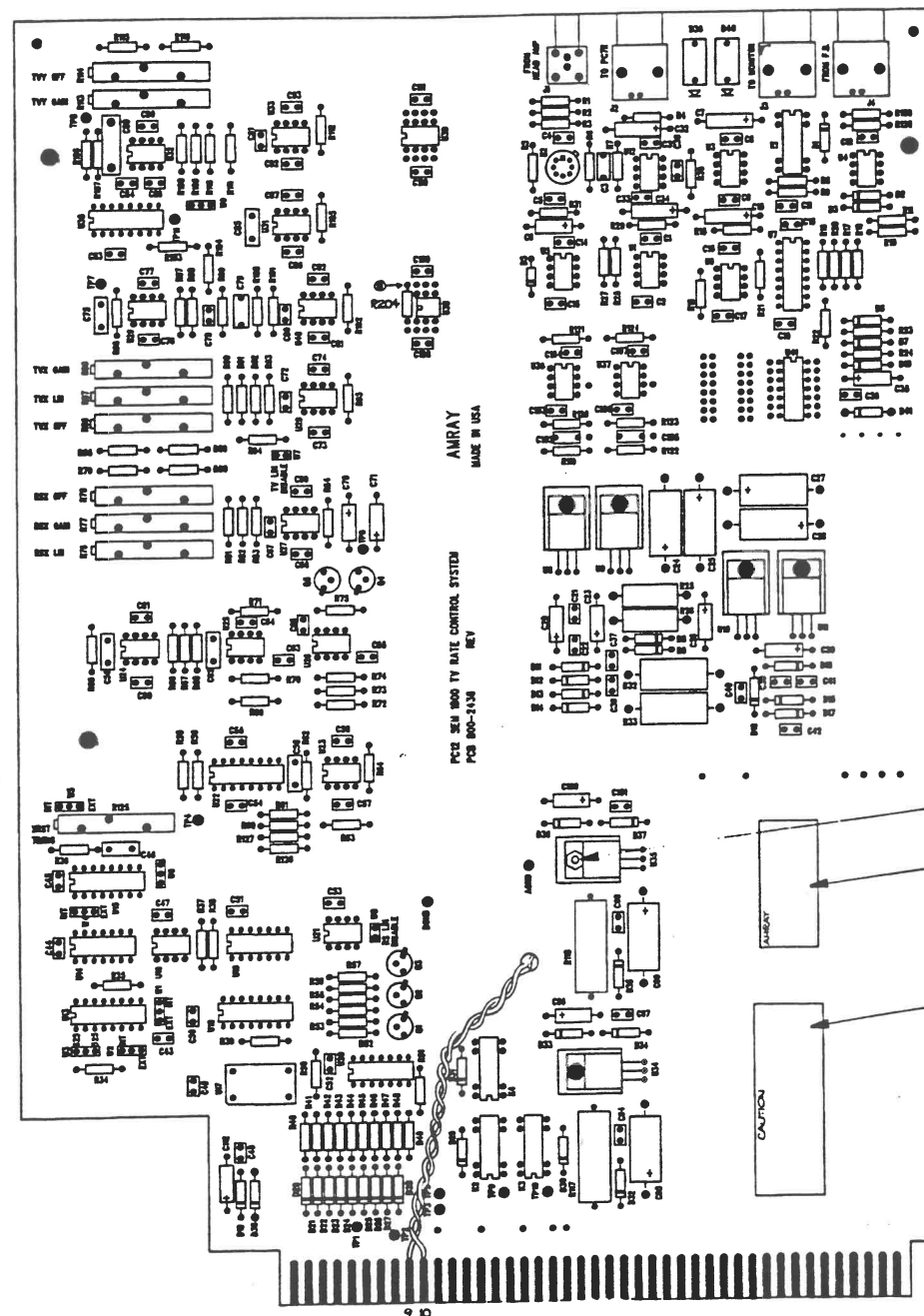
SHEET 1 OF 3

FILENAME: (NOTES) DB2107P1.BOR

ITEM	PART/DWG NO.	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC. BEDFORD, MA			
DATE	3-1-6	TITLE	PCB ASSY. PC12, CNTL SYS.
CHECKED	01	DATE	1/14/83
APPROVED		DATE	
UNLESS OTHERWISE SPECIFIED		MATERIAL	SEE TABLE
TOLERANCES		SIZE	D
JEK		DWG. NO.	92107
JEK		REV.	C
ANGLES		SCALE	1X
NEXT ASSY.		USED ON	
APPLICATION		REMOVE ALL BURRS	
		WT.	
		SHEET	1 OF 3



BACK VIEW



FRONT VIEW

MODIFICATIONS (-01 VERSION ONLY)

CUT TRACK: (BACK SIDE)

FROM U28-2 TO U28-7

INSTALL RESISTOR: (FRONT SIDE)

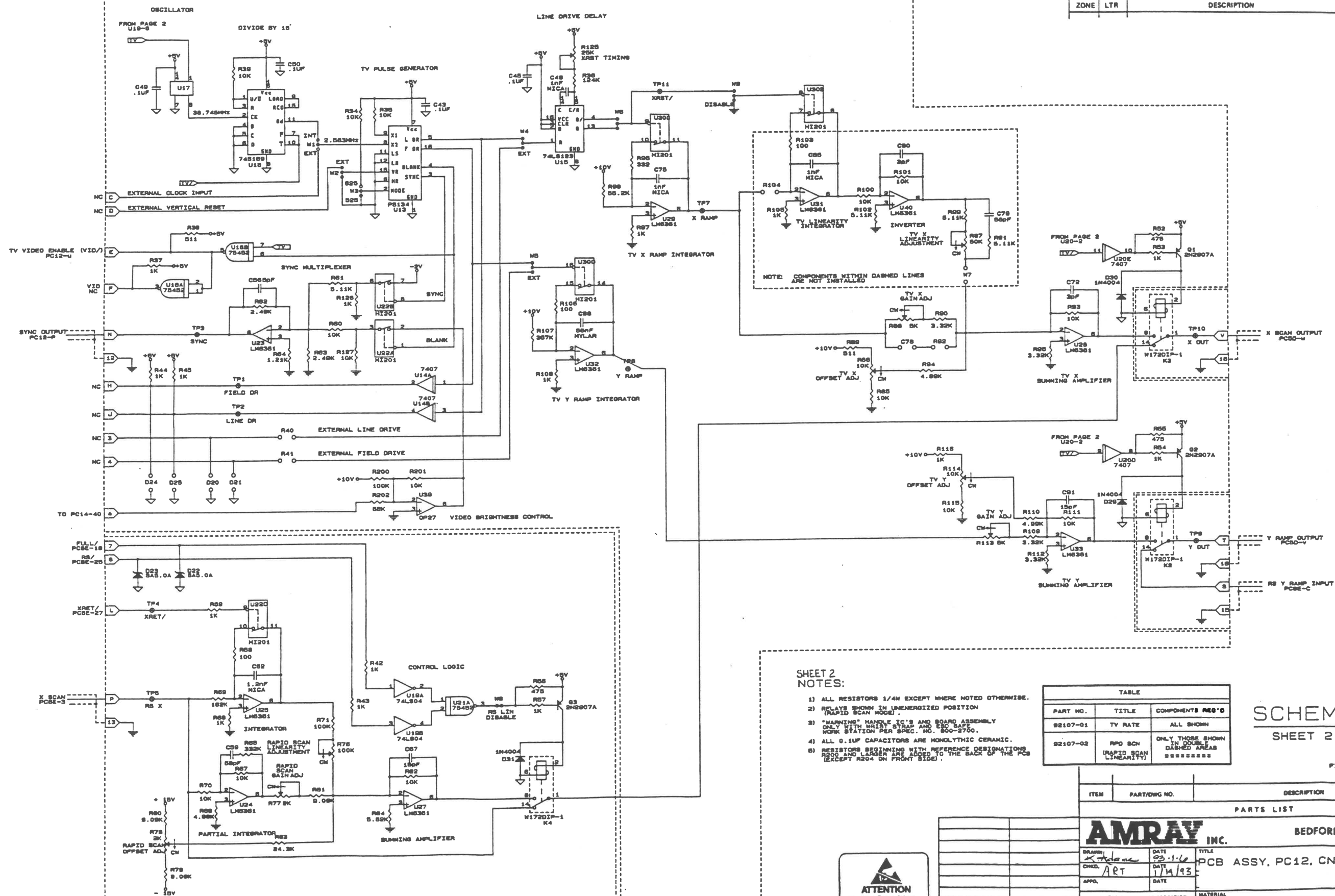
R204 FROM U28-1 TO R204 (C)

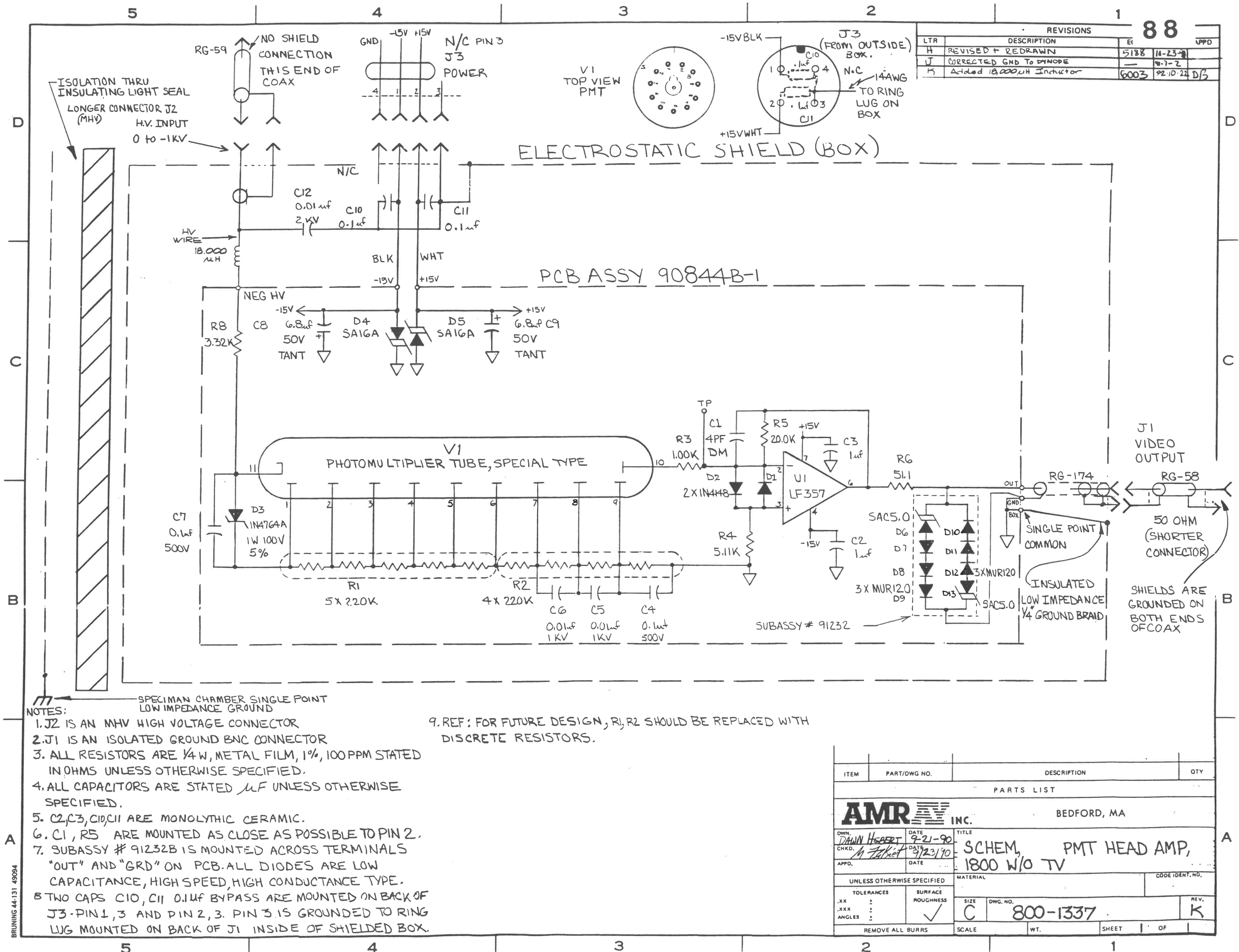
INSTALL RESISTORS: (BACK SIDE)

R200 FROM U28-6 TO U28-7 (+10V)
R201 FROM U28-3 TO U28-6
R203 FROM U28-2 TO EDGE PIN 4
R203 ACROSS D5

ADD JUMPERS: (BACK SIDE)

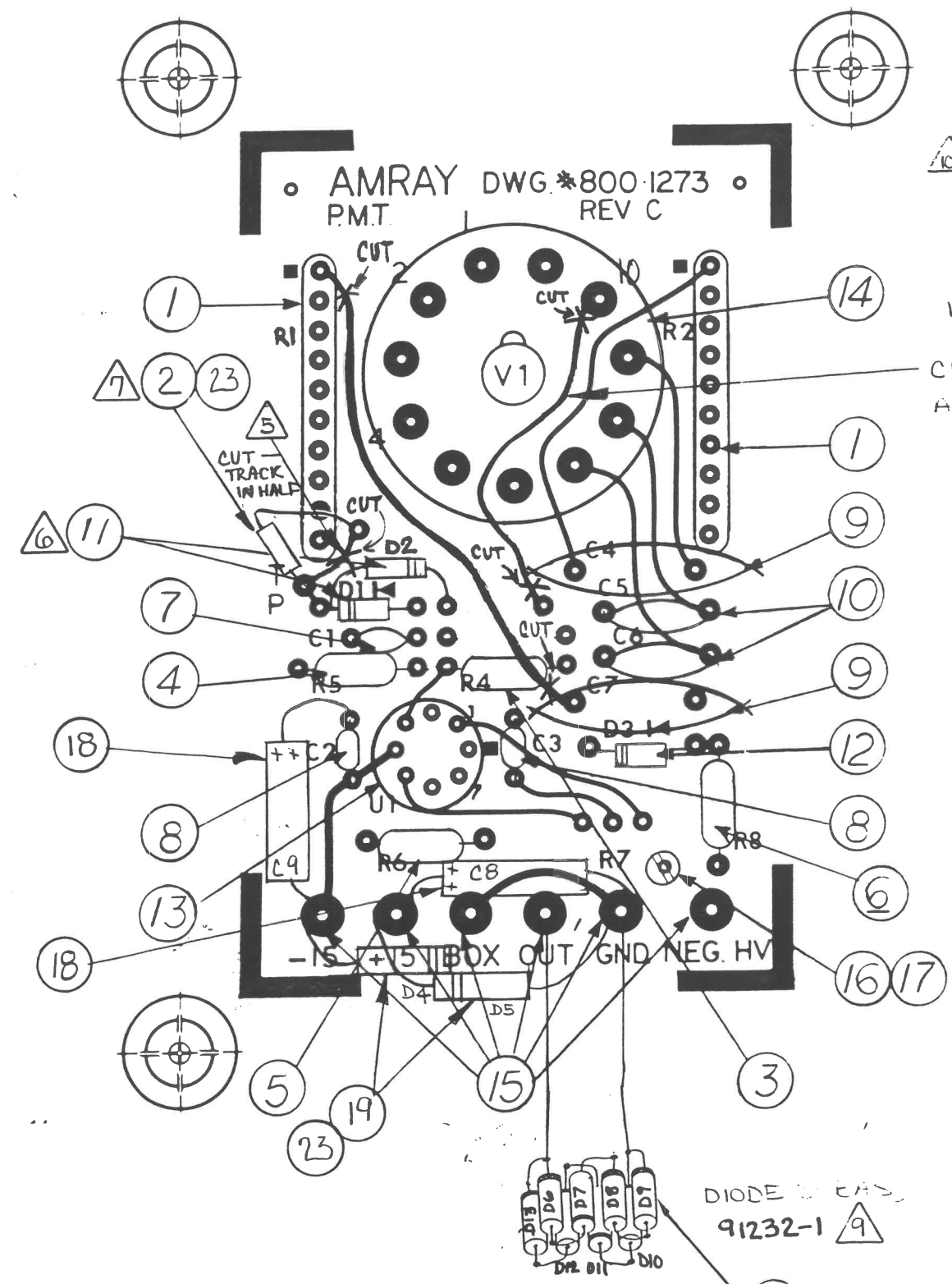
{FROM U28-4 TO EDGE PIN 8 (THROUGH TO FRONT SIDE)} - TWIST
{FROM R204 TO EDGE PIN 10 (THROUGH TO FRONT SIDE)} - TWIST
{FROM U28-7 TO R204 (+5V)} - TWIST
{FROM U28-7 TO R204 (+5V)} - TWIST
{FROM U28-7 TO U28-4} - TWIST
{FROM U28-7 TO U28-4} - TWIST
{FROM U28-7 TO U28-4} - TWIST





P/N	TITLE	APPLICATION	RELIABILITY
90P/N	TITLE COMPLETION		
9-1	SED, SR	SECONDARY ELECTRON DETECTOR,	STANDARD RELIABILITY 1800
-2	CLD, SR	CATHODOLUMINESCENCE DETECTOR,	STANDARD RELIABILITY 1800

REVISIONS				
LTR	DESCRIPTION	RECO	DATE	
-	REL	4298	3-24	PE
A	CHANGED PART LIST	4432	8-4-23	PE
B	CHG VALUE OF C1 & 3	4481	8-6-17	PE
C	CHANGED PARTS	4575	8-7-813	PE
D	R5 WAS 51K	4629	8-9-21	PE
E	ADDED SHEET 2, -1 & -2 VERSIONS	5188	9-2-10	DB
F	UPDATE HSDY & PARTS LIST ADD NOTES 3-9	5188	10-10-	DB
G	ADD NOTE 10 TO -1 AND -2	5953	6-24-72	
J				
K	UPDATE TO MATCH PL	5188	12-1-73	DB



SHEET 1. NOTES:

1. R7 is not installed.

2. Mount nylon nut 117-098 on solder side and flush cut nylon screw 116-055 as required. (FOR INSULATION)

3. When PCB terminals are mounted they should be swage with the proper tool. After PCB is wave soldered flush cut farside as close as possible.

4. Before PCB is assembled cut and remove (peel) PCB track on component side tied between pin 10 of V1 tube socket and pad as shown.

5. Before PCB is assembled cut PCB track on component side tied to pad labeled "TP" and feedthrough 1/2" away as shown.

6. Diode D2 Item 11 is installed between one of the original pads and other diode lead of D1 as shown.

7. Resistor R3 Item 2 is mounted vertically between two feedthrough pads as shown. Resistor lead inserted in feedthrough pad labeled "TP" is also used as a jumper wired to pin 2 of U1 on farside. Use teflon tubing to insulate jumper (ITEM 23).

8. Mount C8, C9, D4, D5 as close as possible to PC board.

9. Subassembly #91232B is mounted close to terminals marked "OUT" and "GRD" as possible.

CUT FOIL FROM C7 TO R1 PIN 1. ATTACH JUMPER WIRE BETWEEN C7 AND R1 PIN 1 ON SOLDER SIDE OF BOARD. COVER JUMPER WIRE TEFLON TUBING, SEE SHEET 3.

II. MASK 8 HOLES AT U1 BEFORE WAVE SOLDER.

CUT PC TRACK 2 PLACES AND REEL TRACK OFF. 4

PART NO-1

AMRAY INC.		BEDFORD, MA	
DRAWN BJL	DATE 1-7	TITLE PCB ASSY, PMT BUFFER AMP,	
CHKD. ART	DATE 12/27/84		
APPD. ART	DATE 12/27/84		
UNLESS OTHERWISE SPECIFIED		MATERIAL PL 90844-1	CODE IDENT. NO.
TOLERANCES .XX ± .XX .XXX ± .# ANGLES ± .XX	SURFACE ROUGHNESS ✓	SIZE B	DWG. NO. 90844
REMOVE ALL BURRS		SCALE 2X	WT.
		SHEET 1	OF 3

BRUNING 44-131 65105

APPLICATION		LTR	DESCRIPTION
NEXT ASSY	USED ON		

SHEET 2.

Notes:

1. R7 is not installed.

2. Mount nylon nut 117-098 on solder side and flush cut nylon screw 116-055 as required. (FOR INSULATION)

3. When PCB terminals are mounted they should be swage with the proper tool. After PCB is wave soldered flush cut farside as close as possible.

4. Before PCB is assembled cut and remove (peel) PCB track on component side tied between pin 10 of V1 tube socket and pad as shown.

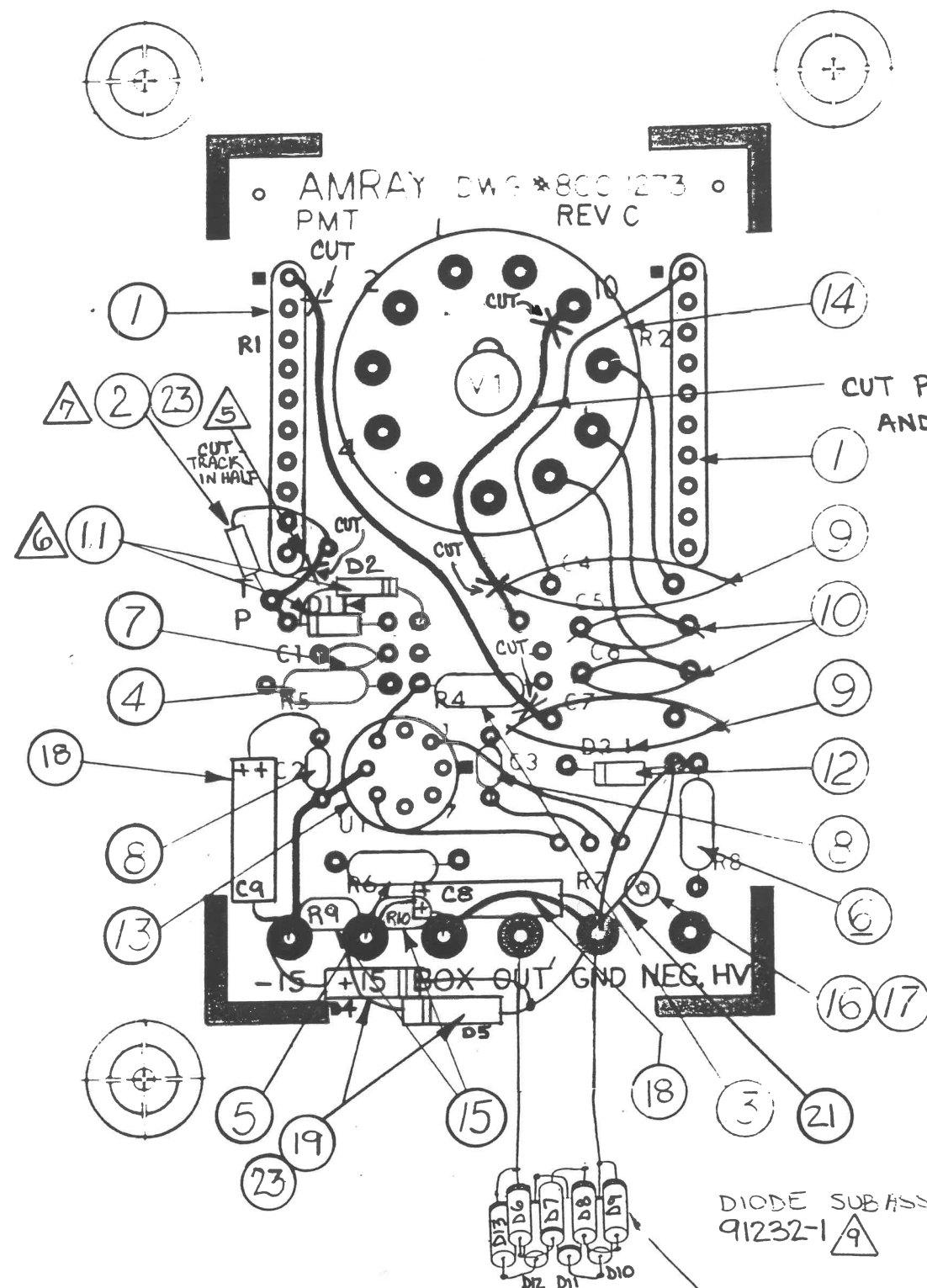
5. Before PCB is assembled cut PCB track on component side tied to pad labeled "TP" and feedthrough 1/2" away as shown.

6. Diode D2 Item 11 is installed between one of the original pads and other diode lead of D1 as shown.

7. Resistor R3 Item 2 is mounted vertically between two feedthrough pads as shown. Resistor lead inserted in feedthrough pad labeled "TP" is also used as a jumper wired to pin 2 of U1 on farside. Use teflon tubing to insulate jumper (ITEM 23)

8. Mount C8, C9, D4, D5 as close as possible to PC board.

9. Subassembly #91232B is mounted close to terminals marked "OUT" and "GRD" as possible.

10. CUT HOLE FROM C7 TO R1 PIN 1. ATTACH JUMPER WIRE BETWEEN C7 AND R1 PIN 1 ON SOLDER SIDE OF BOARD. COVER JUMPER WIRE WITH TEFLON TUBING - SEE SHEET 3
11. MASK 8 HOLES AT U1 BEFORE WAVE SOLDER.

PART NO. - 2

AMRAY INC.		BEDFORD, MA	
DESIGNED BY G. DOPP	DATE 03.12.1	PCB ASSY, PMT BUFFER AMP,	
ART	12/27/88		
APPROVED BY ART	DATE 12/27/88		
MATERIAL PL 90844-2		CODE IDENT. NO.	
THICKNESS XXX ANGLES	SURFACE ROUGHNESS ✓	SIZE B	DWG. NO. 90844
REMOVE ALL BURRS		SCALE 2X	WT.
		SHEET 2	OF 3
		REV. K	

4

3

2

1

91

APPLICATION

NEXT ASSY.

USED ON

LTR

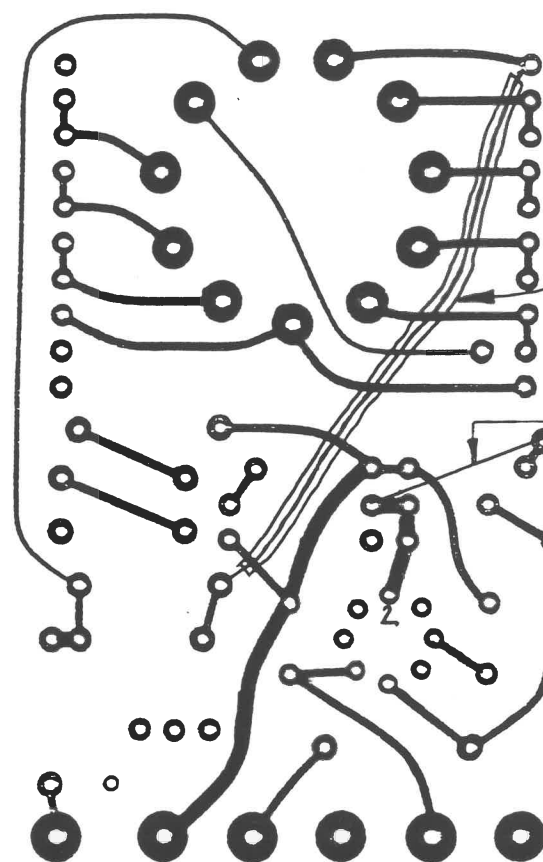
REVISIONS

DESCRIPTION

ECO

DATE

APPD



ADD JUMPER WIRE TO
JUNCTION OF D1, TP AND
CONNECT TO PIN 2 OF U1
USE TEFLON TUBING TO
INSULATE JUMPER

FOR P/N -1 + -2

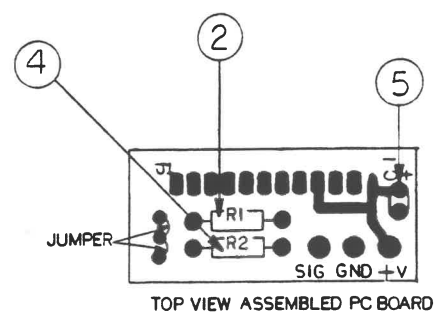
BACKSIDE OF PCB (SOLDER SIDE)

ITEM	PART/DWG NO.	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC.		BEDFORD, MA	
DRAWN DAWN HEBERT	DATE 10/17/90	TITLE PCB ASSY, PMT BUFFER AMP,	
CHKD.	DATE		
APPD.	DATE		
UNLESS OTHERWISE SPECIFIED		MATERIAL	CODE IDENT. NO.
TOLERANCES .XX ± .XXX ± ANGLES ±	SURFACE ROUGHNESS ✓	SIZE B	DWG. NO. 90844
REMOVE ALL BURRS		SCALE 2X	WT.
		SHEET 3	OF 3

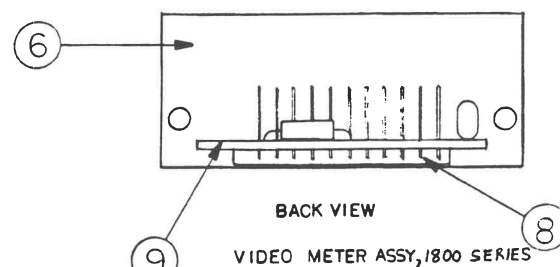
REV.
K

REVISIONS					
ZONE	LTR	DESCRIPTION	ECO	DATE	APPD
	-	RELINCE	4161		
A		CHG VIEW OF VIDEO METER	4310		
B		MAKE -1 + -2	4515		
C		CHANGE PARTS LIST	4817		
D		REDRAW TO D + ADD -3	4917	7-13-88	DB
E		P/N -1 + -2 ADD R4, CORRECT SCHEMATIC ONLY R3 WAS CONNECTED TO GND	5996	9/19/92	DB

PART NO. -2

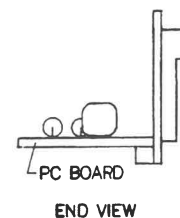


TOP VIEW ASSEMBLED PC BOARD



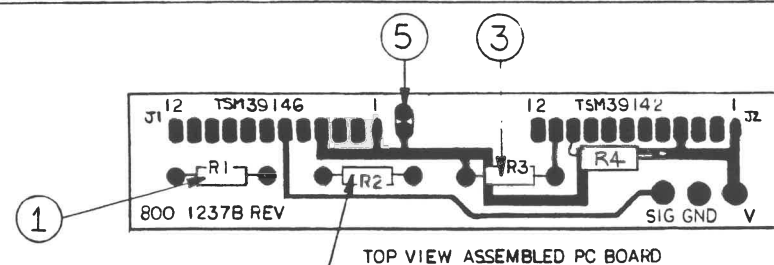
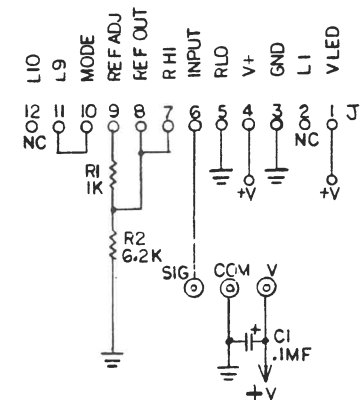
BACK VIEW

VIDEO METER ASSY, 1800 SERIES

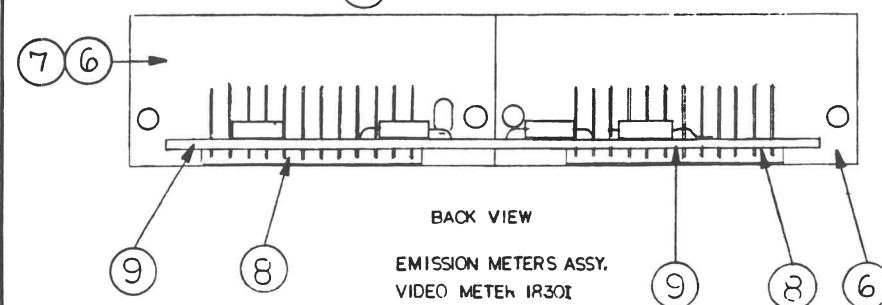


END VIEW

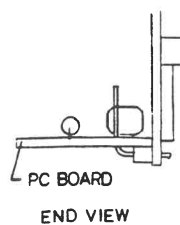
SCHEMATIC



TOP VIEW ASSEMBLED PC BOARD

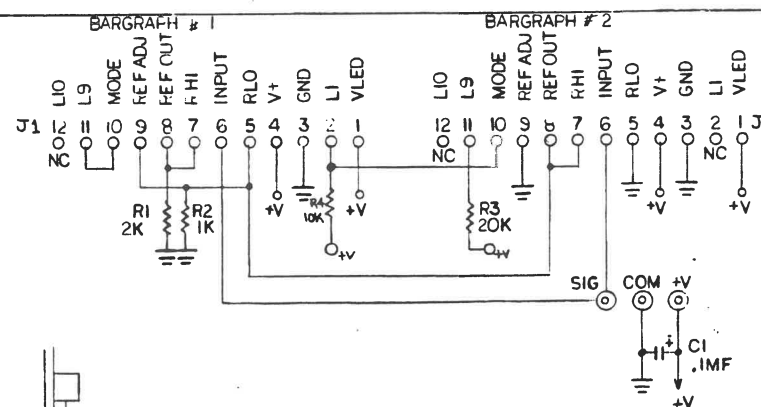


BACK VIEW

EMISSION METERS ASSY.
VIDEO METER 1830I

END VIEW

SCHEMATIC



-3 VIDEO, 1830I						
-2 VIDEO, 1800 SERIES						
-1 EMISSION, 1800 SERIES						
1	0	1	10	010-351	RES, MF, 1%, 1/4W, 10.0K	R4
1	1	1	9	800-1237B	PCB, LED BARGRAPH METER	
2	1	2	8	050-535	HEADER, 12 PIN, RIGHT ANGLE	
1	0	0	7	030-477	LED BARGRAPH, GRN. W/ RED SEG.	
1	1	2	6	030-476	LED BARGRAPH, ALL GRN. SEG.	
1	1	1	5	020-129	CAP, CER, 50V, .1MF	C1
0	1	0	4	010-592	RES, MF, 1%, 1/4W, 6.19K	R2
1	0	1	3	010-363	RES, MF, 1%, 1/4W, 20.0K	R3
1	1	1	2	010-348	RES, MF, 1%, 1/4W, 1.00K	R1
1	0	1	1	010-001	RES, MF, 1%, 1/4W, 2.00K	R1
-1	-2	-3	ITEM	PART/DWG NO.	DESCRIPTION	
QUANTITY				PARTS LIST (REFERENCE ONLY)		

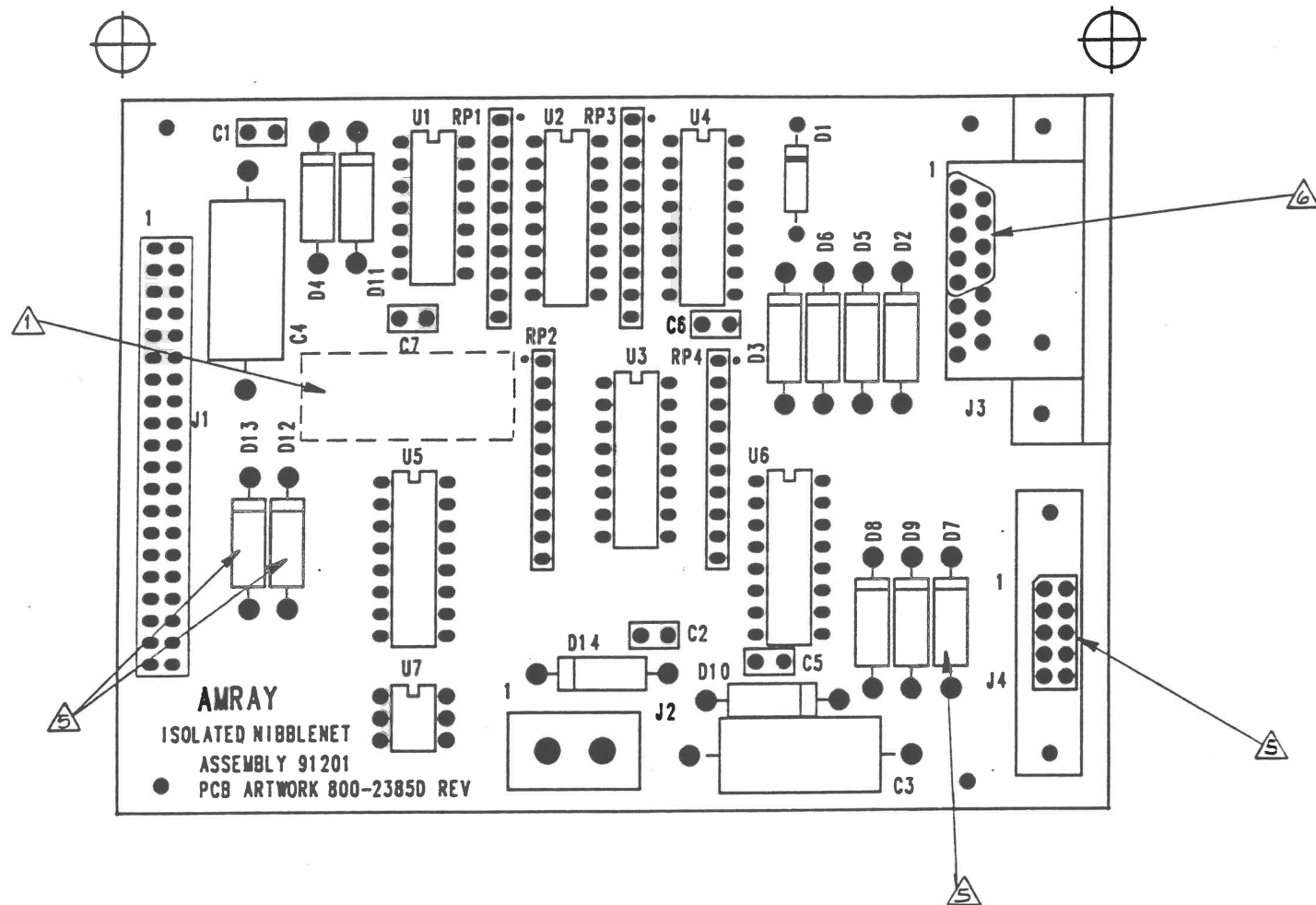
QUANTITY

PARTS LIST (REFERENCE ONLY)

AMRAY INC. BEDFORD, MA DRAWN BY P. M. PALMER DATE 3-5-88 CHECKED BY [Signature] DATE 3-7-88 APPD. [Signature] DATE		TITLE PCB ASSY, LED METER,	
		MATERIAL SEE ADPS PARTS LIST	
UNLESS OTHERWISE SPECIFIED TOLERANCES .XX .XXX ANGLES		SURFACE ROUGHNESS ✓	
NEXT ASSY. USED ON		SCALE WT.	
APPLICATION		REMOVE ALL BURRS	
SIZE D		DWG. NO. 90194	
SHEET 1 OF 1		REV. E	

PART NO. -1 + -3

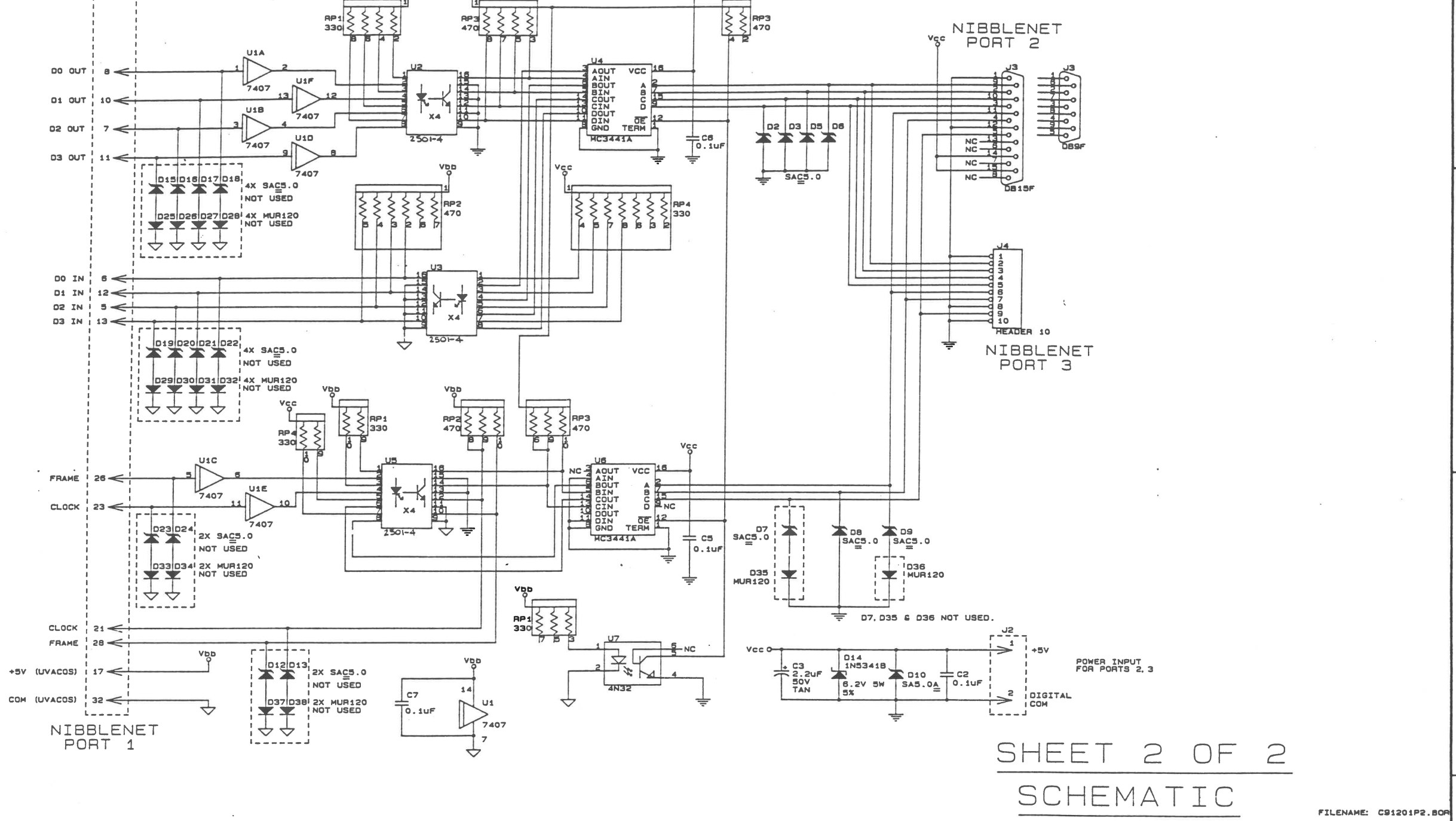
REVISIONS				
LTR	DESCRIPTION	BY	DATE	APPD
A	RELEASE	R0024	91-1-1	
B	RELEASE	R0024	91-12-25	
C	SCHEMATIC CHANGES U2, U3, U5 WAS PCB17 (SHARP BRAND) SCHEMATIC DIFFER FROM COMPUTER FILE	6011	11/6/11	D11

**NOTES:**

1. INSTALL PCB/CHASSIS LABEL APPROXIMATELY HERE ON THE BOTTOM SIDE OF THE BOARD. MARK WITH PART NUMBER AND REV LEVEL OF THIS DRAWING, AND DATE MFD.
2. INSTALL ALL IC'S AT TIME OF FINAL ASSEMBLY.
3. WARNING: HANDLE IC'S AND BOARD ASSEMBLY ONLY WITH WRISTSTRAP AND ESD SAFE WORKSTATION.
4. AFTER FINAL ASSEMBLY, STORE BOARD IN FARADAY STATIC SHIELDING BAG AND SEAL FLAP WITH ESD WARNING LABEL.
5. J4, D7, D12, & D13 ARE NOT USED AND THEREFORE SHOULD NOT BE INSTALLED.
6. THESE PINS ARE TO BE USED WHEN J3 IS A 9 PIN CONNECTOR. ASSEMBLE AS SHOWN WHEN A 15 PIN CONNECTOR IS USED.

TABLE		
PART NO.	TITLE	PART NO / DESC
91201-1-1	9D	050-484 CONN, 9 PIN, D TYPE
91201-2-1	15D	future application CONN, 15 PIN, D TYPE

ITEM		PART/DWG NO.		DESCRIPTION		QTY
PARTS LIST						
AMR INC.		BEDFORD, MA				
DATE 91-2-19		TITLE PCB ASSY, ISO NIB NET,				
DATE 91-5-22						
DATE 91-5-22						
UNLESS OTHERWISE SPECIFIED		MATERIAL ADPS PL 91201				CODE IDENT. NO.
TOLERANCES		SURFACE ROUGHNESS		SIZE		DWG. NO.
.XX : —		✓		C		91201
.XXX : —						
ANGLES : —						
REMOVE ALL BURRS		SCALE 2X		WT. —		SHEET 1 OF 2

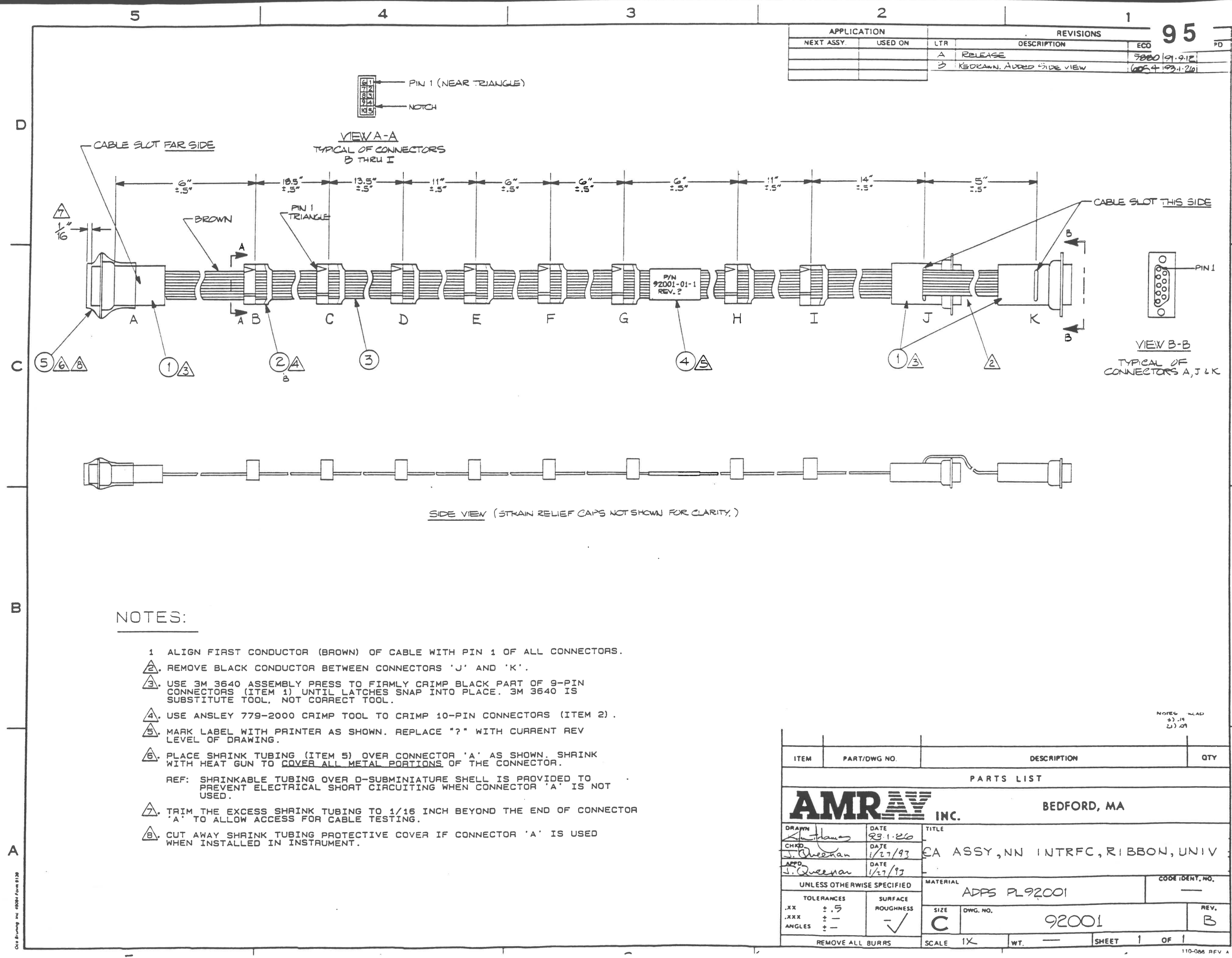


SYMBOLS

▽ - V_{bb} RETURN (FOR PORT 1)
 ⊥ - V_{cc} RETURN (FOR PORT 2 AND 3)
 V_{bb} = +5VDC (FOR PORT 1)
 V_{cc} = +5VDC (FOR PORT 2 AND 3)

- NOTES (SHEET 2)**
- DO NOT CONFUSE SAC5.0 WITH SAS.0A.
 - J3 MAY BE INSTALLED AS EITHER A 15 OR 9 CIRCUIT CONNECTOR.
 - U2, U3 & U5 MAY BE PC 841 ON SOME ASSY'S.
 - U7 IS A PHOTO DARLINGTON.
 - ALL CAPACITORS ARE MULTILAYER CERAMIC EXCEPT AS NOTED.
 - ALL RESISTORS ARE METAL FILM, 1%.

AMRAY INC.		BEDFORD, MA	
DRAWN <i>[Signature]</i>	DATE 92.2.28	TITLE PCB ASSY, ISOL NIB NET INTERFACE	
CHKD.	DATE		
APPO.	DATE		
UNLESS OTHERWISE SPECIFIED		MATERIAL	
TOLERANCES	SURFACE ROUGHNESS		
.XX ±	✓		
.XXX ±			
ANGLES ±			
REMOVE ALL BURRS		SCALE: NONE	
		WT.	SHEET 2 OF 2
		REV. C	

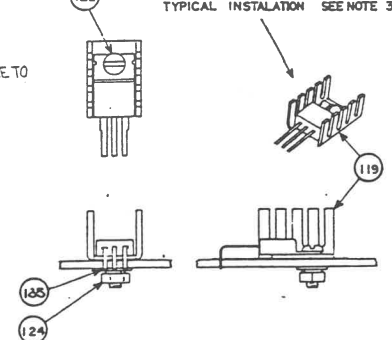


Doc Drawing Inc 40264 Form 01-28

NOTES READ
93.1.20
J. J. J.



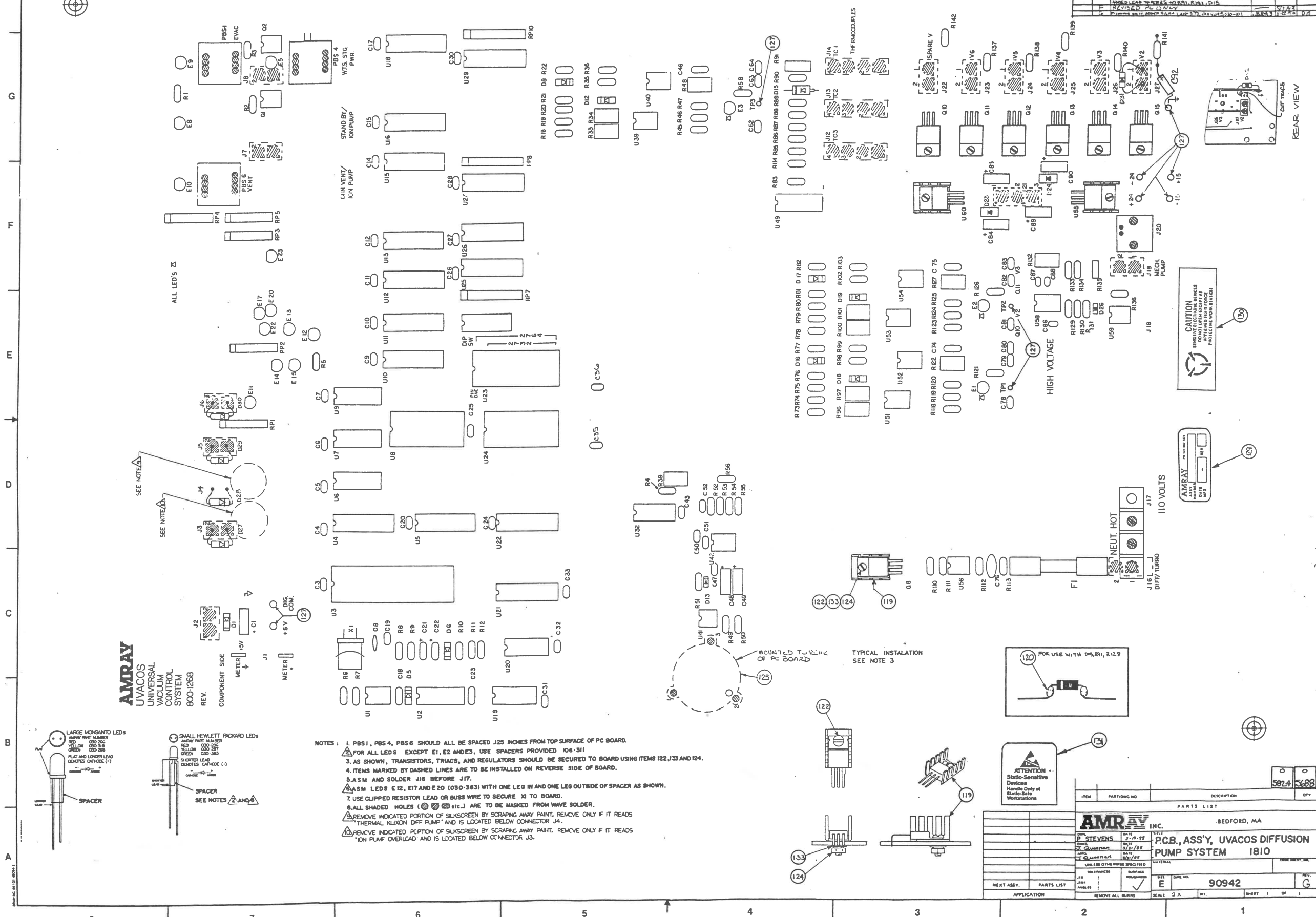
10. ALL SHADED HOLES (●, ▨, etc...) ARE TO BE MASKED FROM WAVESOLDER.

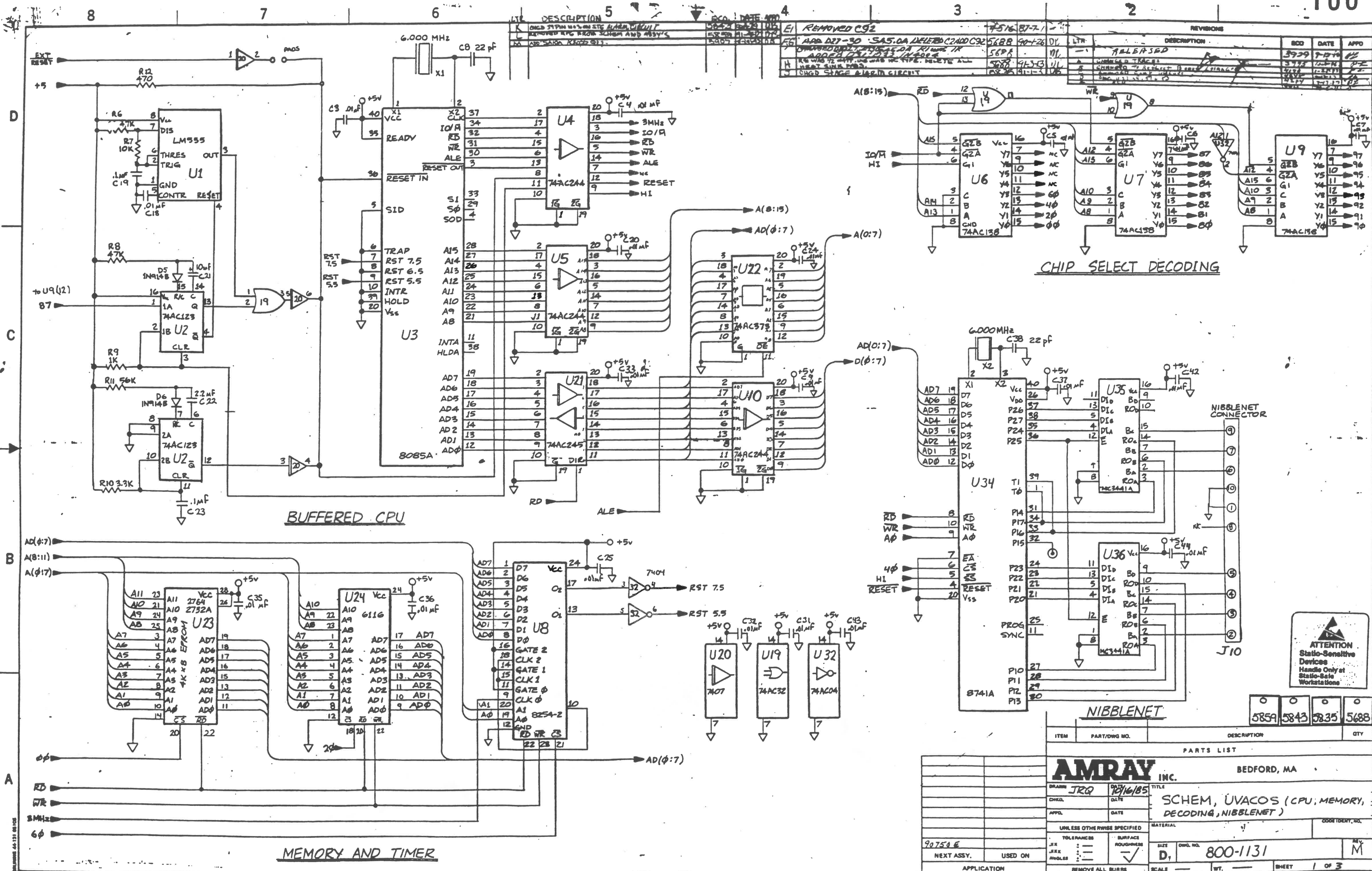


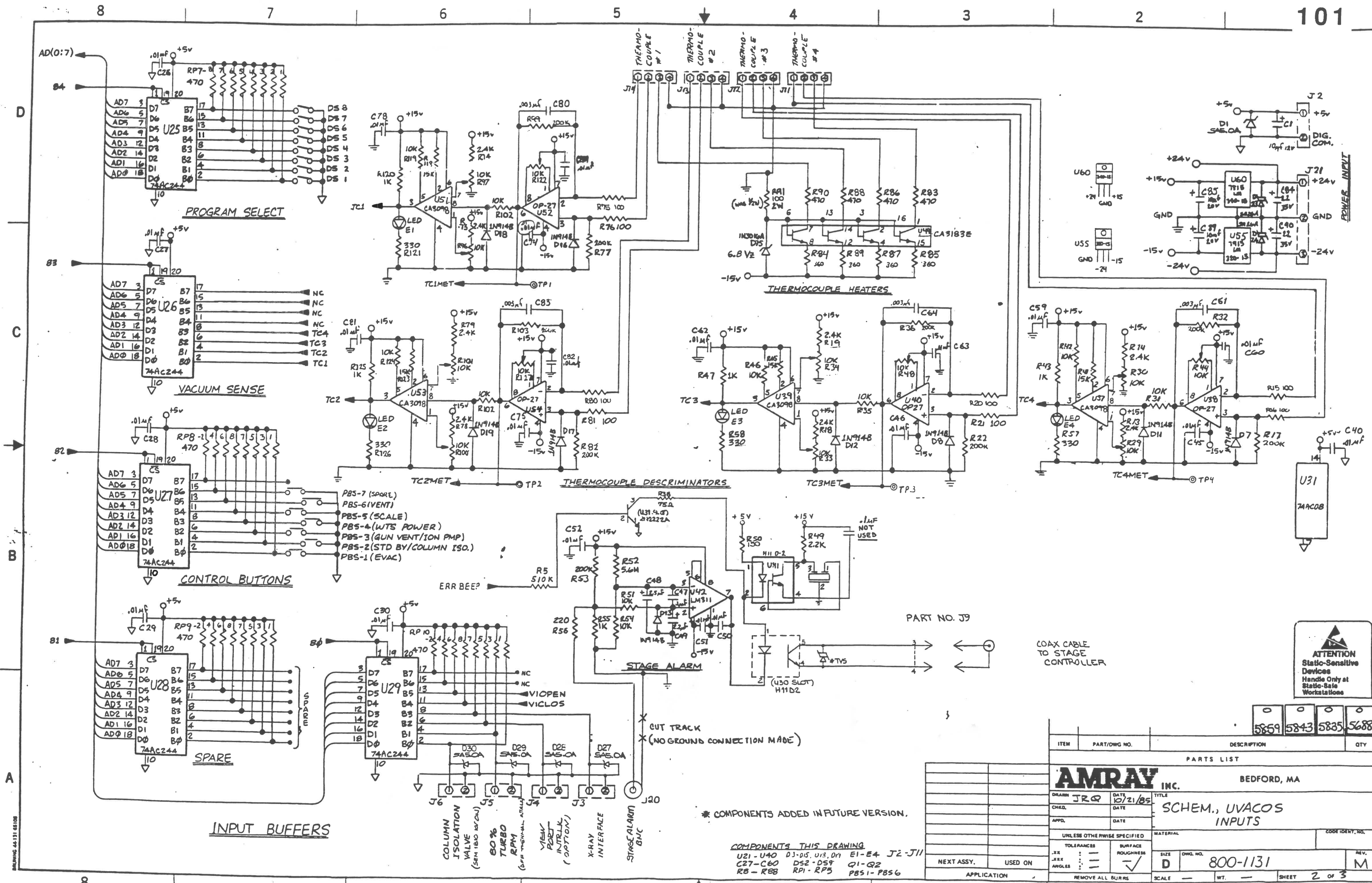
SILKSCREEN DWG.

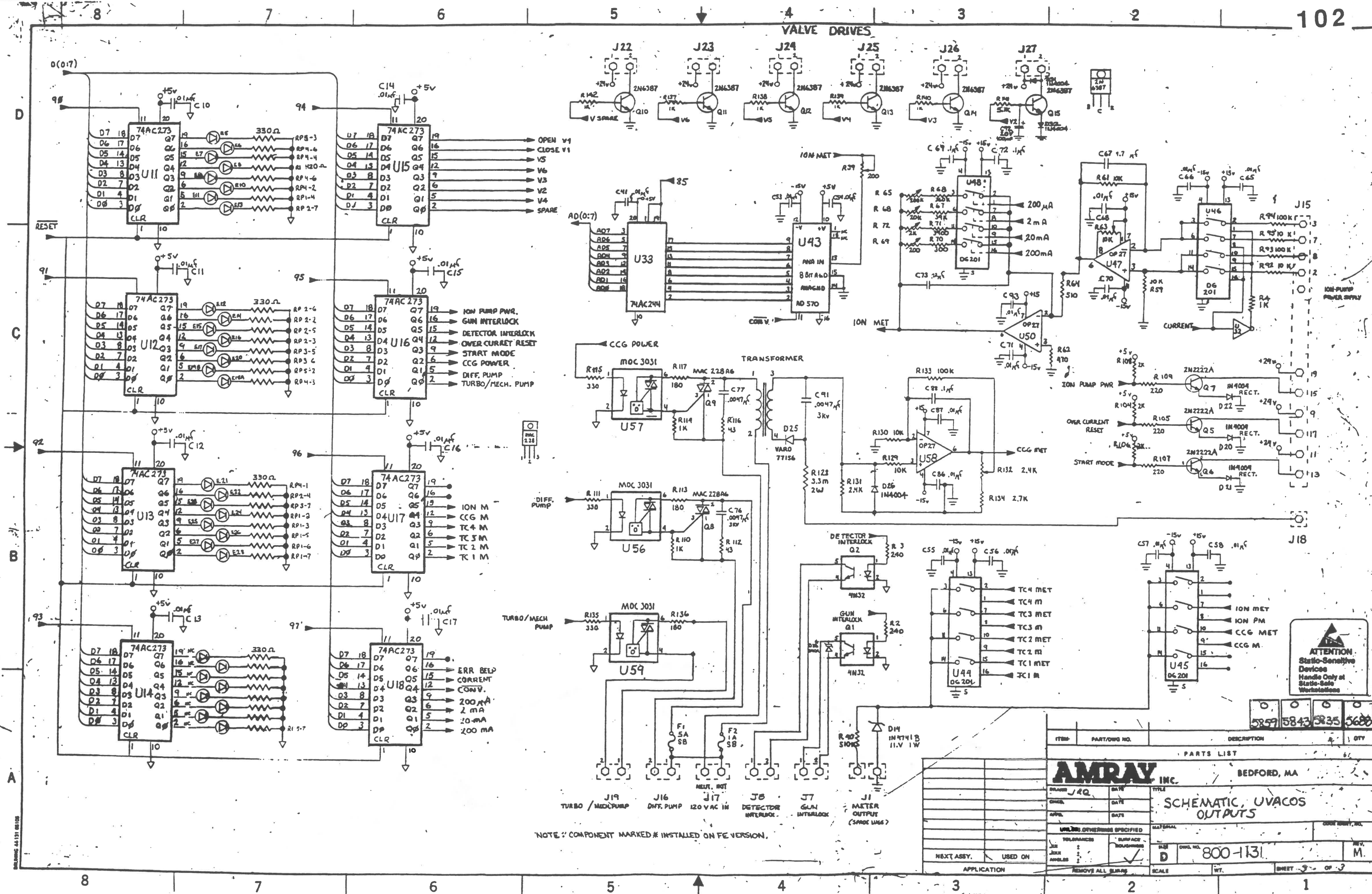
ITEM		PART/ONG NO		DESCRIPTION		QTY
PARTS LIST						
				BEDFORD, MA		
P. STEVENS		QTY	66	TITLE		
CNS BL		SMTS		PCB ASSY. UNACOS, DIFF. LG		
APPL		SATS		PUMP SYSTEM		
UNLESS OTHERWISE SPECIFIED				MATERIAL		USE UNIT, INC.
POLYMER FRAMES		BUMP AGE		DTS		INC.
X-10		X-10		QTY		P
X-10		X-10		90812E		
X-10		X-10		E		
NEXT PAGE		PARTS LIST		SCALE 2 X		WT.
APPLICATION		REMOVE ALL BURRS		SHEET 1		OF 1

REVISIONS				APPRO	
ZONE	LTR	DESCRIPTION	DATE	BY	CHK
A		REVISED 10/10/88	10/10/88	BNV	DB
B		REVISED 10/10/88	10/10/88	BNV	DB
C		REVISED 10/10/88	10/10/88	BNV	DB
D		REVISED 10/10/88	10/10/88	BNV	DB
E		REVISED 10/10/88	10/10/88	BNV	DB
F		REVISED 10/10/88	10/10/88	BNV	DB
G		REVISED 10/10/88	10/10/88	BNV	DB
H		REVISED 10/10/88	10/10/88	BNV	DB



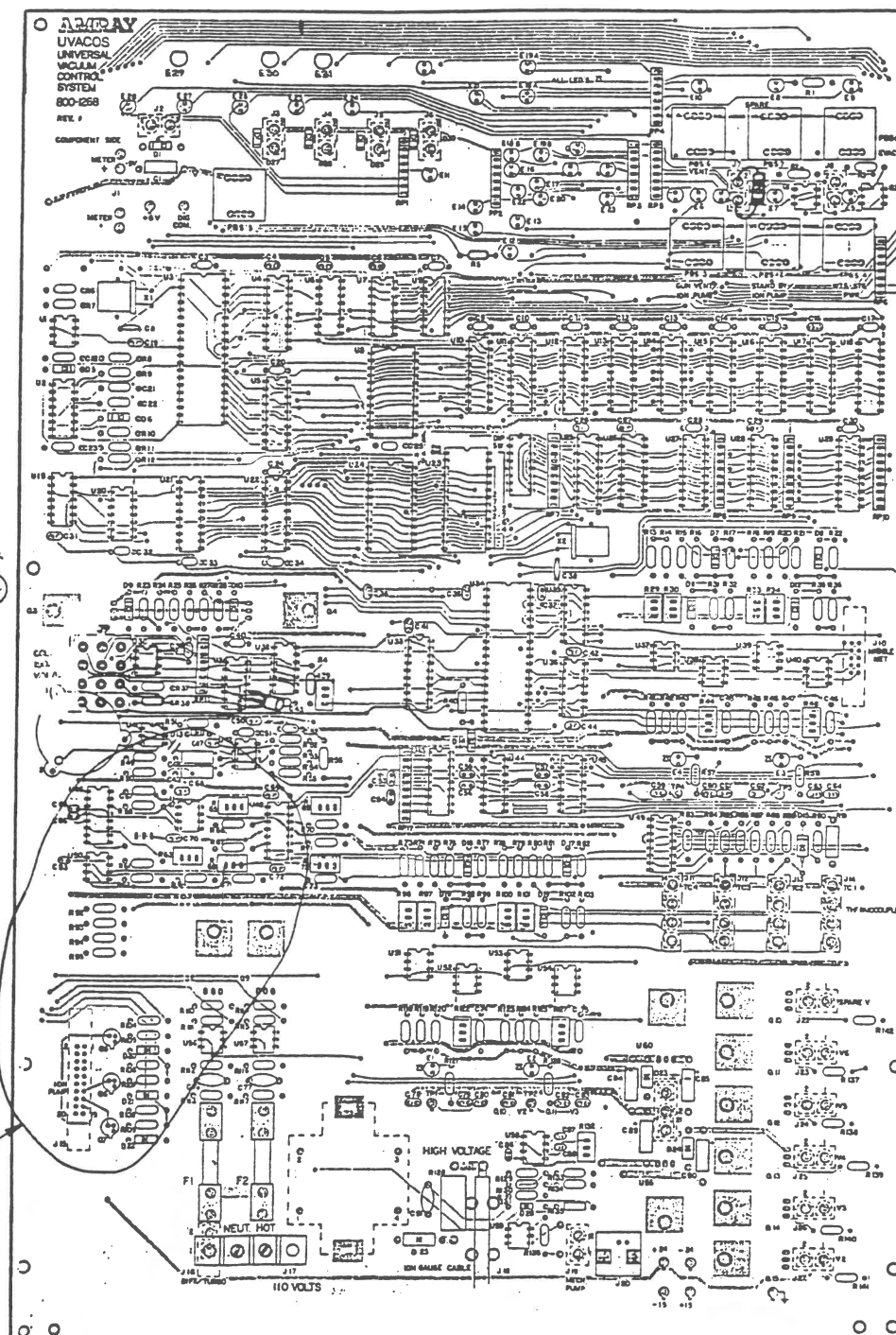






ITEM	PART/OWNS NO.	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC. BEDFORD, MA			
SCHEMATIC, UVACOS OUTPUTS			
REVISIONS			
REV.	DATE	BY	CHKD
1			
MATERIAL			
SPECIFICATIONS			
TOLERANCES			
SURFACE FINISH			
DRILLING			
MOUNTING			
WELDING			
PAINTING			
PACKAGING			
STORAGE			
SHIPPING			
RECEIVING			
DISPOSAL			
REWORK			
REPAIR			
REPLACE			
RETEST			
REUSE			
RECYCLE			
REMARKS			
APPROVED			
DATE			
BY			
CHKD			
REV.			
D 800-1131			
SCALE			
WT.			
SHEET 3 OF 3			

ZONE		LTR	DESCRIPTION	ECO	DATE	APPD
	E6		REPAIR - Added cut track to A junction.	5835	9-1-82	DB
	E7		Revised alarm circuit to take on the clock and alarm circuit to 2 p.c. for smoke alarm circuit	5843	9-1-82	DB
	E8		PL change - 11-1			
	E9		PL change - 11-1	5859	7/1/82	
	E10		ADDED TO 1, 2, -3	5967	8/3/82	
	E11		ADD SOFTWARE FOR EA 4 VOLT NO.			
	E12		ADDED -4	5959	7/1/82	
	E13		DELETE COAX CABLE, DELETE ITEM 91.42 ON PPL	5835	11-17-83	UC
	E14		DELETE PMS 08-351, 08-377, 08-384, 08-351 from PMS 1-2-3	5843	11-24-83	DB
	E15		ADD TRANSFORMER D32 ACROSS 91	5967	11/1/83	DB
	E16		REVISE TABULATION	5843	11/1/83	DB



RUN LIST			
FROM	COLOR	FAIRING	TO
PS-1 (5%)	BROWN		U45-10 (C)
2	RED		U45-15
3	ORANGE		U45-7
4	YELLOW		U45-2
5	GREEN		U45-13
6	BLUE		U42-15
7	VIOLET		U48-9
8	GREY		U42-17
9	WHITE		U47-5
10	BLACK		U46-2
11	BROWN	} 113-278	U4-5
12	RED		U4-2
13	ORANGE		U46-19
14	YELLOW		U46-9
15	GREEN		U46-12
16	BLUE		U49-6
17	VIOLET		U4-19
18	GREY		U4-6
19	WHITE		U4-15
20	BLACK		U4-6
PS-1 (50%)	BLUE	113-076	(A)
PS-2	BROWN	113-068	(B)
PS-3	VIOLET	113-074	(D)
PS-4	WHT/BLU	113-087	J2-1
U17-16	GREEN	113-101	U45-1
U17-19	"	"	U45-16
U23-1	"	"	U23-27
U23-27	"	"	U23-28
R132(6)	"	"	U38-6
E29-airnode	"	"	U44-12
E30-airnode	"	"	U4-9
E31-airnode	"	"	U15-19
E29-airnode	"	"	E12 airnode
E30-airnode	"	"	E13 airnode
E31-airnode	"	"	E14 airnode
RP11-2	"	"	R5(L)
RP11-3	"	"	C39(M)
J9-3	"	"	U42-7
U31-9	"	"	(F)
U41-2	"	"	R38(N)
U31-3	"	"	113-17

REFERENCE:
SEE DWG
STAGE ALARM
MODIFICATION
DWG 91211C

NOTES:
1. REF. CUT TRACKS BETWEEN: R132 ⑤ and U45-10 ④. (back side)

J9-3 and ②. •
U30-5 and U30-7. •
U31-9 and ②. •
U31-3, 10 and ④. •
C47 ⑥ and ⑤. •
U41-2 and U42-7 (front side) •

58
STA
ALU
MG

SEE
STAGE
ALARM
MOD
(DWG
91211)

② REMOVE THE FOLLOWING COMPONENTS:
R104, R105, R106, R107, R108, R109, D20, D21, D22, Q5, Q6,
Q7, L46, J47, J48, U50.

3. REPAIR/REMOVE RS AND REPLACE WITH Q10-351, K4N, 10M.
REPLACE R38 AND REPLACE WITH Q10-577, K4N, TS.L.
REPLACE RS2 AND REPLACE WITH Q10-64H, M4V, ISOL.
INSTALL AT U30 (USE PART 12, 4, 6, 7, 8)): Q30-25, H11DZ (SEE STAGE
ALARM
MOD)
(DWG
9121)
Q50-272, IC SOCKET
(SEE STAGE ALARM MOD/DWG 9121 A)

INSTALL AT U31: Q30-101, 2N2222. (SEE STAGE ALARM MOD/DWG 9121 A)

INSTALL AT C9: Q50-279, 2 PIN CONN. (SEE BACK VIEW) 9121

4. PS+PB CONNECTORS SHOULD MEASURE 11 INCHES FROM EDGE OF UNACOS PCB.

5. STAGE ALARM MODES SHOWN ON THIS DWG AS REFERENCE.
MODIFICATION DWG AND PL 9121.

Detail A
bottom view of
030-101

5843 5835



ATTENTION
Static-Sensitive
Devices
Handle Only at
Static-Safe
Workstations

AMRAY INC.

BEDFORD, MA

DLRN	DATE	TITLE
~~1-1-2~~	9-1-2	SEE TABULATION
CHD	DATE	
	9-1-2	

UNLESS OTHERWISE SPECIFIED	DATE	MATERIAL
YOUNG MAN	9.1.1.P	SEE TABULATION

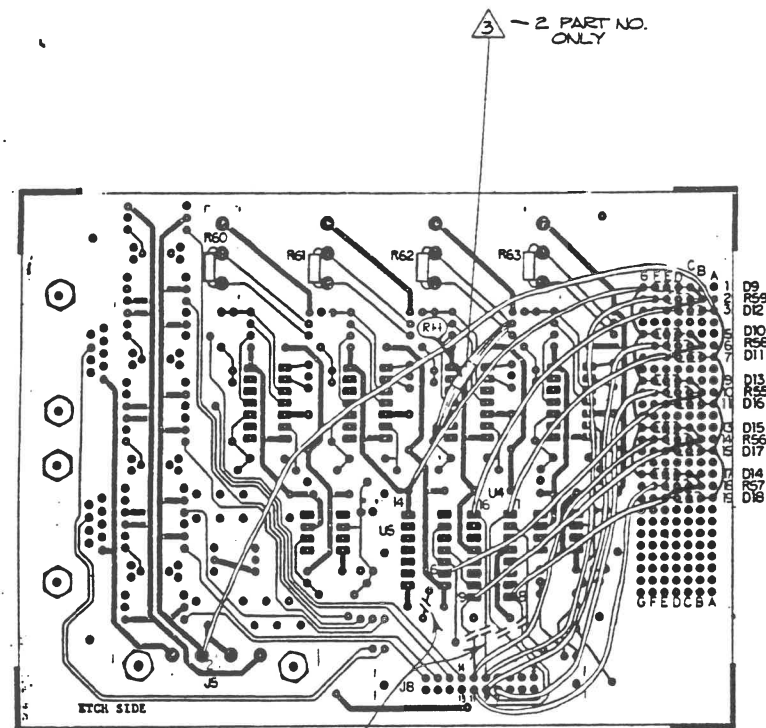
.HH : .HH : ANGLES :	ROUGHNESS 	SIZE D	DWG. NO. 91121
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REMOVE ALL BURRS	SCALE —	WT. —	SHEET
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APPLICATION

REMOVE ALL BURRS	SCALE —	WT. —	SHEET 1 OF 2
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REVISIONS					
ZONE	LTR	DESCRIPTION	ECO	DATE	APPD
	A	RELEASE	R0001	70-2-7	
	B	C29, 50 WAS 10MF/12V, C27, 28 WAS 2.2MF, 50V SHEET 2 WAS YOU-1779D	R0001	3-9-92	
	C	Added -2 PART NO, SHEET 3	5959	72-7-8	DB
	D	PL CHANGE ONLY			
	E	SEVEN OHM TO GND & RESISTOR 230 WAS 1K, 230 OHM TO GND ADDED PER.	6111	6/14/73	DB
	F	ADD TABULATION	5959	11-29-73	DB

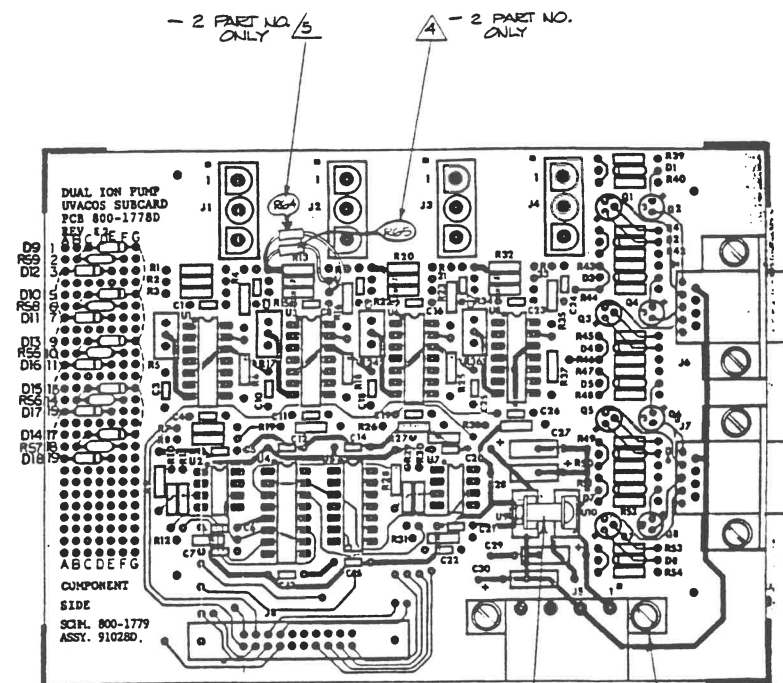


CUT TRACE
5 PLACES

BACK SIDE

JUMPERS (22 GA BUS WIRE)	
A3-A7, A7-A11, A11-A15, A15-A19	
G1-G5, G5-G9, G9-G13, G13-G17	
C1-B2, B2-E3	
C5-B6, B6-E7	
C9-B10, B10-E11	
C13-B14, B14-E15	
C17-B18, B18-E19	

JUMPERS (28 GA TEFLON WIRE)	
A3-J5-2	
G1-U5-14	
F2-J8-10	
F3-U4-16	
F6-J8-9	
E7-U4-1	
F10-J8-7	
E11-U5-6	
F14-J8-12	
E15-U4-9	
F18-J8-11	
E19-U4-8	



FRONT SIDE

34

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THESE NOTES ARE TO CONVERT -2
PART NO. FROM -1 PART NO.

1. REMOVE R14.
2. REMOVE R13.
3. INSTALL R14 (NEW) (ITEM 7) ON BACK SIDE OF BOARD FROM J2-2 TO U3 PIN 10.
4. INSTALL R65 (ITEM 7) FROM U3 PIN 4 TO GND.
5. INSTALL R64 (ITEM 7) FROM U3 PIN 11 TO GND.

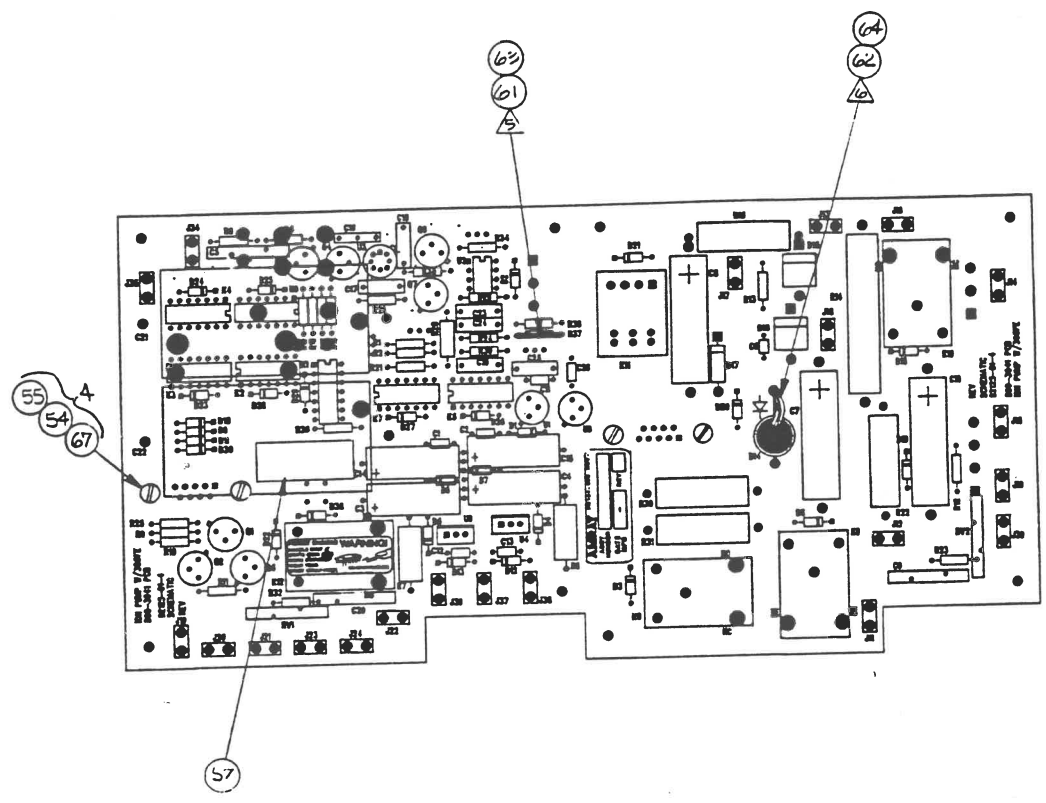
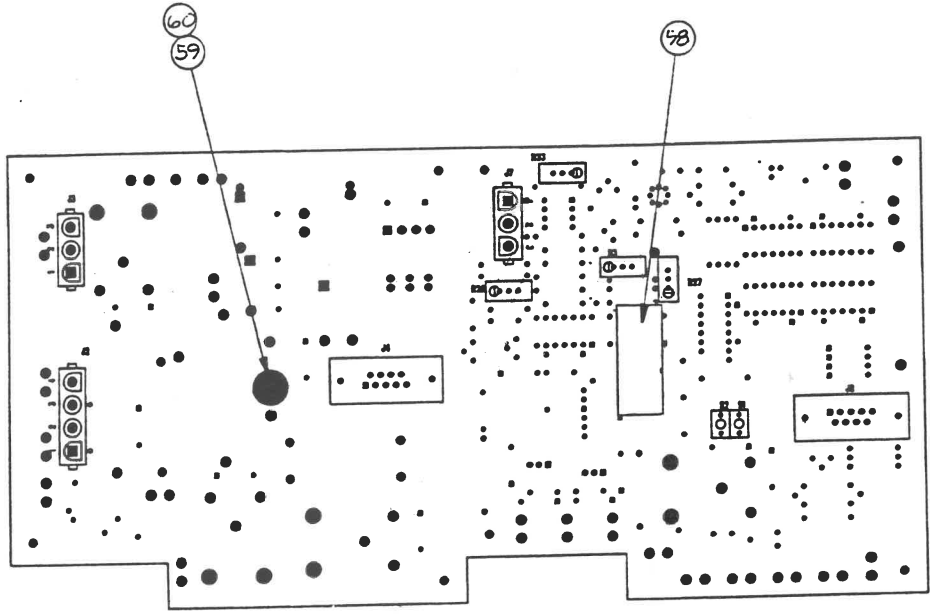


TABULATION			
PART NO.	TITLE COMPLETION	APPLICATION	SCHEMATIC
-1	PE	PERKIN ELMER ION PUMP	SHEET 2
-2	VARIAN	VARIAN ION PUMP	SHEET 3

ASSEMBLY FOR -1, -2
SHEET 1 OF 3

ITEM	PART/DWG NO.	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC. BEDFORD, MA			
TITLE PCB ASSY, DUAL ION, UVACOS,			
DRAWN: [Signature] DATE: 70-2-7			
CHECKED: [Signature] DATE: 71-2-10			
APPROVED: [Signature] DATE: 72-1-10			
UNLESS OTHERWISE SPECIFIED			
MATERIAL ADPS PL 91028 -2			
TOLERANCES SURFACE			
FRA : -			
DEC : -			
ANGLES : -			
NEXT ASSY. USED ON			
APPLICATION			
REMOVE ALL BURRS			
SCALE WT. SHEET 1 OF 3			

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	BY
	ET	1. INITIAL CTR		
	ET	2. ION ENG. CHG		
	ET	3. A. E. D. IONIZING ANODE MODIFIED	9/21/79	GBH
	B	4. ADDED 12 SOCKET, 2XK 51455, 2XTE 5789	10/13	GBH

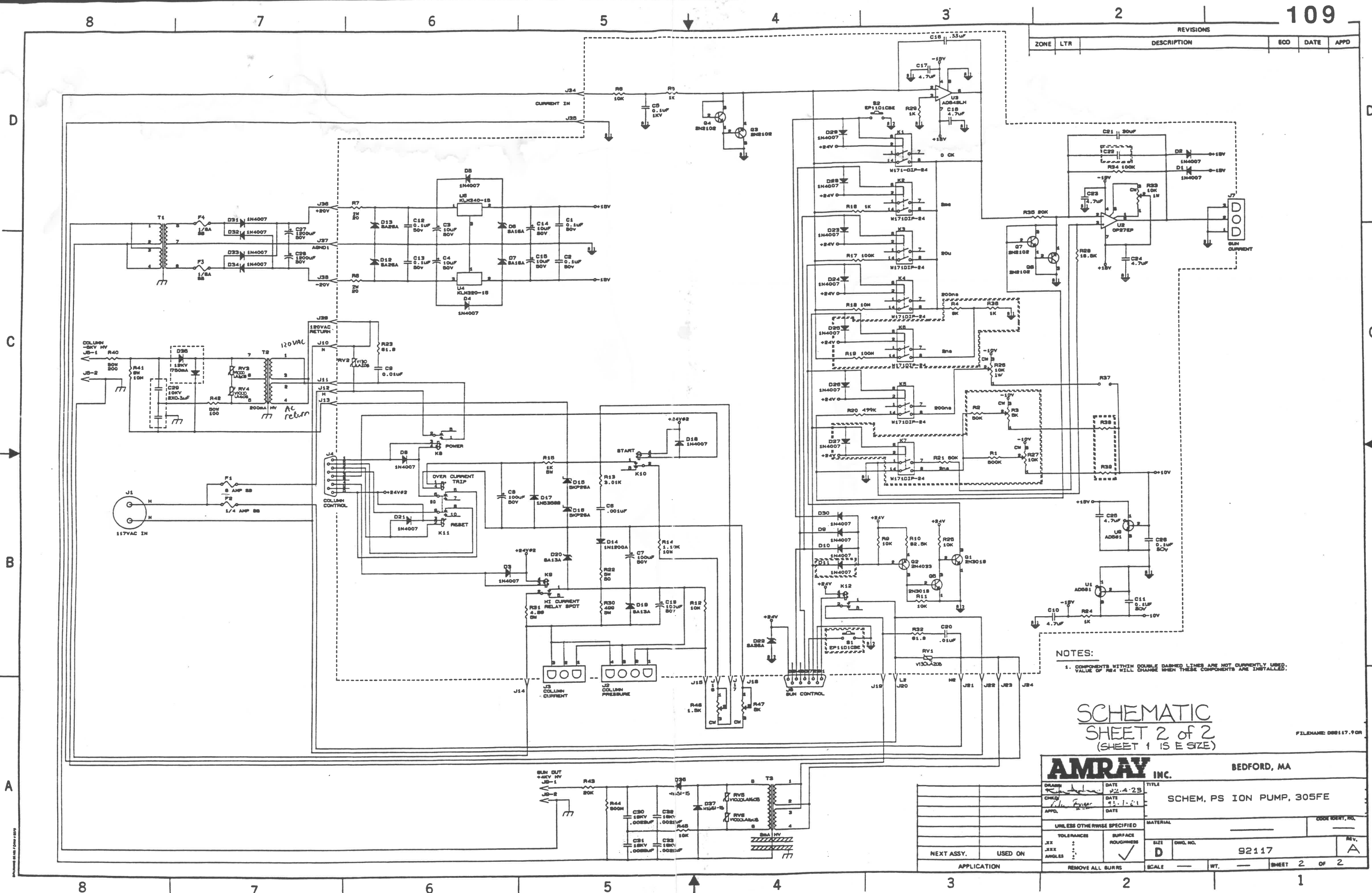


- NOTES: !! ATTENTION !!
1. MOUNT U3 AT LEAST 1/4 IN ABOVE BOARD WITH NO SOCKET OR SPACER UNDERNEATH BEND LEADS TO HOLD IN POSITION IF NEEDED. THIS MOUNTING METHOD IS REQUIRED TO ENABLE A GOOD FLOW OF CLEANING FLUIDS UNDER THE IC.
 2. WHEN CLEANING BE ESPECIALLY THOROUGH ON BOTH SIDES OF THE BOARD, AROUND U3, Q3, Q4, C5, K6, J34, AND J35.
 3. PLACE SW, SW, 10W RESISTORS 1/4" MIN OFF PCB
 4. INSTALL C21 AT 12A INSTALLING R1 4, K16 18.
 5. PUT ALONG R57 WITH 22 GA KITS WIRE.
 6. INSTALL 15 GA FLD WIRE FROM DIA 11K-12 PLE AND COVER WITH JUNK TIEPIS.
 7. WAVE SOLDER: MASK HOLES FOR C7, C8, C19, R37, U1, U9, U3, D14, S2
 8. MOUNT R15, R14, R22, R30, R31, R7 AND R8 AT LEAST 1/4 IN ABOVE PC BOARD.
 9. S2, J2, J3, J4, J7, J8, R26, R33 ARE MOUNTED ON SOLDER SIDE OF PC BOARD.

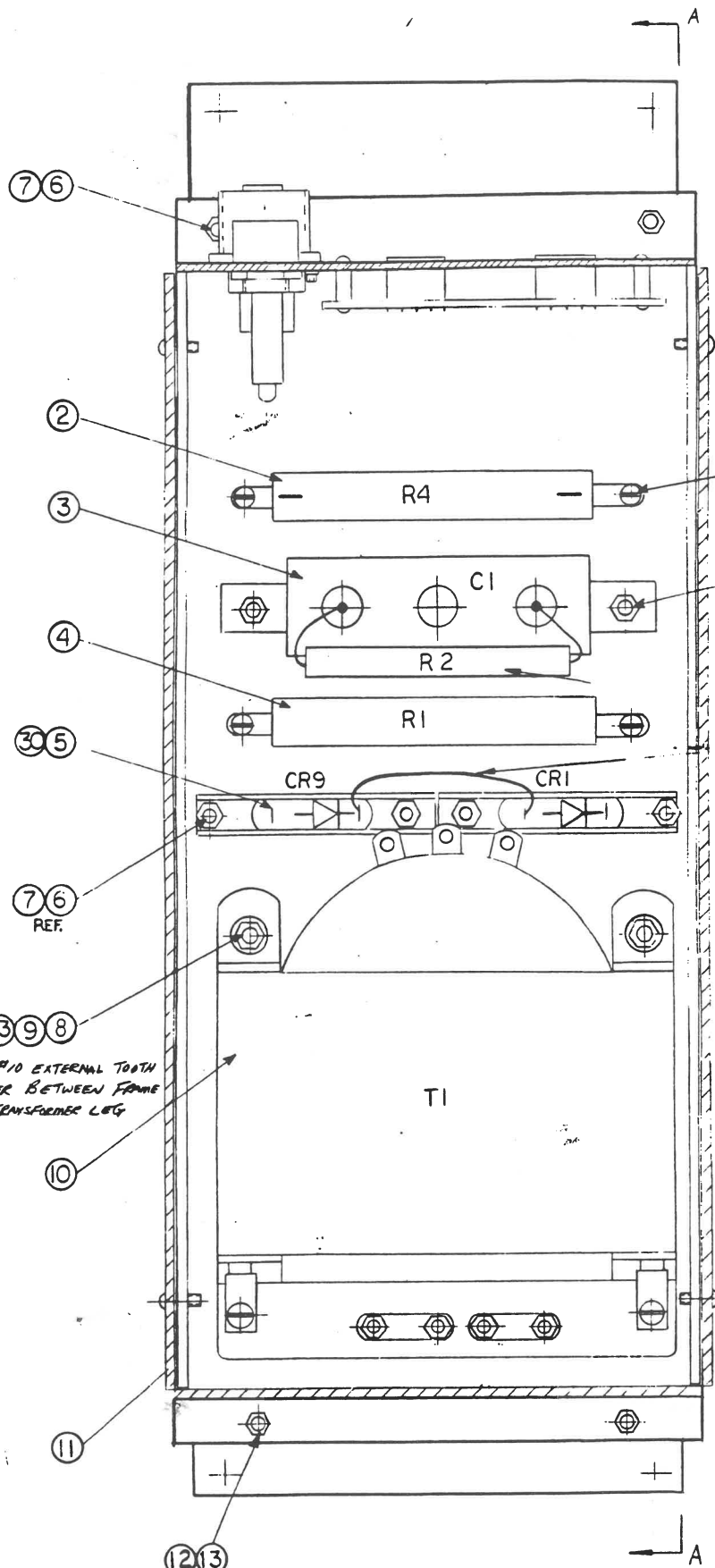


REF: SCHEM. NO. 92117D

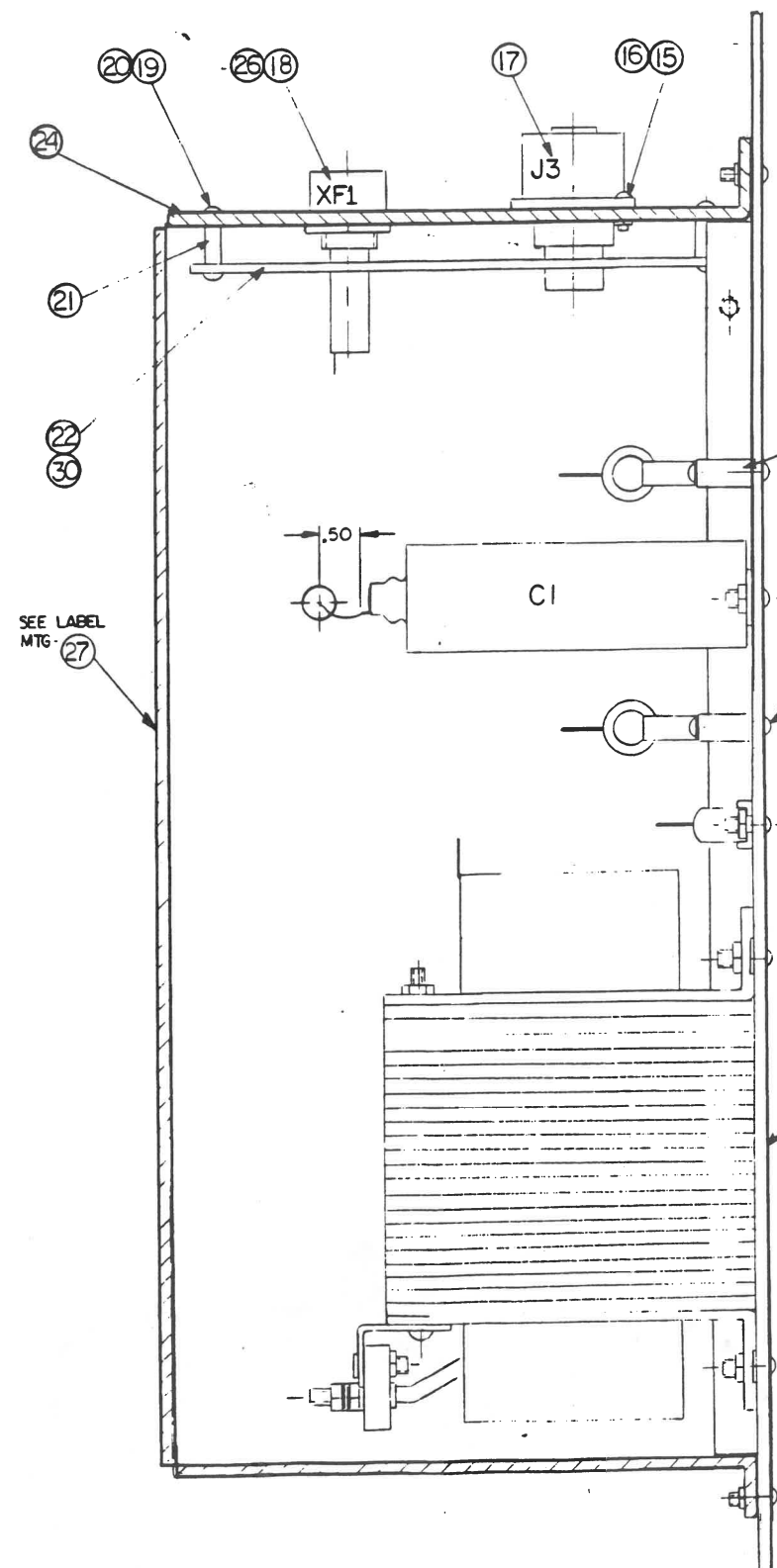
ITEM	PART/ONG NO.	DESCRIPTION	QTY
PARTS LIST			
AMRAY INC. BEDFORD, MA			
TITLE PCB ASSY, ION PUMP, W/ 305FE GUN			
MATERIAL ADPS PL92125			
SIZE D DWG. NO. 92125			
SCALE IX WT. — SHEET 1 OF 1			
APPLICATION REMOVE ALL BURRS			



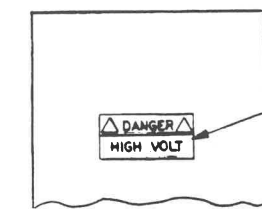
REVISIONS					
ZONE	LTR	DESCRIPTION	ECO	DATE	APPO
-		RELEASED	3868	8-11-76	PL
A		CHANGED PARTS LIST	4061	12-16	PL
B		CHANGED PARTS LIST	4071	11-28-76	PL
C		CHG 31.0 "32	4556	07-1-77	PL
D		CHANGED 27 LABEL; ADDED VIEW OF LABEL	4617	12-16-76	PL
E		ADDED NOTE 4	5611	9-11-77	DB
F		ITEM 5 WAS QTY=2, ADDED NOTE 5	5842	2-25-77	DB



ADD #10 EXTERNAL TOOTH WASHER BETWEEN FRAME AND TRANSFORMER LEG



SECTION A-A



ATTACH LABEL ITEM 27 APPROX IN CENTER OF COVER ITEM 11 AS SHOWN

LABEL MTG SCALE - NONE

NOTES:

- ITEMS 28, 29, 31, 32 TO BE USED AT NEXT HIGHER ASSEMBLY.
- FOR SCHEMATIC SEE DX-6363B-1800.
- MOUNT R2 .50 IN. ON TOP OF C1.
- SOLDER ALL TERMINALS TO WIRES AFTER CRIMPING. SOLDER AT TONGUE END. SOLDER HERE SOLDER HERE
- USE ONLY CLEAR SHRINK TUBING OVER SOLDERED JOINTS FOR INSPECTION VISIBILITY.

ITEM	PART/DWG NO.	DESCRIPTION	QTY
PARTS LIST			
AMR ADVANCED METALS RESEARCH CORP. BEDFORD, MASS.			
DWG. <i>M. Goloshtinsky</i> DATE 2-28-79		TITLE ION PUMP POWER SUPPLY ASSEMBLY	
CHKD. DATE		APPRO. <i>DBERRY</i> DATE 8-79	
1600T LEYBOLD MASTER P.L.W.I.P. 9025B 90195		MATERIAL	
TOLERANCES UNLESS OTHERWISE SPECIFIED		SIZE DWG. NO. 90735D	
JXX 2 SURFACE FINISH		SCALE 1:1	
JXX 2		WY. ~	
JXX 2		SHEET 1 OF 1	
NEXT ASSY. USED ON		APPLICATION	

